# 1994 IUCN Red List of Threatened Animals

Compiled by the World Conservation Monitoring Centre



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# 1994 IUCN Red List of **Threatened Animals**





























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WCMC has developed a global overview database that includes threatened plant and animal species, habitats of conservation concern, critical sites, protected areas of the world, and the utilisation and trade in wildlife species and products. Drawing on this database, WCMC provides an information service to the conservation and development communities, governments and the United Nations agencies, scientific institutions, the business and commercial sector, and the media. WCMC produces a wide variety of specialist outputs and reports based on analyses of its data. It is also actively involved in building the capabilities of other institutions, particularly in developing countries, for promoting and planning their own biological resources.

# 1994 IUCN Red List of Threatened Animals

Compiled by the
World Conservation Monitoring Centre
Cambridge, UK

in association with the
IUCN Species Survival Commission
and
BirdLife International

Edited by Brian Groombridge

> Guest Essay by Georgina Mace

> > and

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## **FOREWORD**

Periodically, the Red List forces us to take stock of where we are in our knowledge of the conservation status of species. Our knowledge has changed in expression through the years, as IUCN's small book *The Road to Extinction*<sup>1</sup>, published in 1987 testifies. For some while, members of IUCN's Species Survival Commission have been considering the redefinition of the categories of threatened status of species in order to make them more realistic measures. The essay by Georgina Mace that follows is an up-to-date report on this process. We anticipate that the next Red List will reflect the adoption of new and redefined categories by IUCN. In the meantime we look to cooperation from all parties as systematic re-examination of the status of taxonomic groups and surveys of regional and national biotas proceed. To inform conservation actions we will need ever better specification of the population and distributional status of species the world over from people in touch with the real situations of these species.

In closing her essay, Dr Mace calls attention to other dimensions, both biological and human, that should be taken into account as we determine the best responses to the threats of extinction. One need is to link a quantitative grid of population and distribution criteria such as outlined in her essay to an assessment of the relative importance of a species. The evolutionary and ecological values of a species should be factored into our prioritization of conservation action. Weighting and decision making systems such as that developed by Williams, Vane-Wright, and Humphries, lend themselves to this purpose.<sup>2</sup> The integration of such systems will, however, require cooperation by systematists and ecologists with conservation biologists to a degree not previously envisaged.

Given that we can foresee a three-dimensional assessment of conservation status from a biological standpoint, it remains to factor in the human dimensions. From simple human population impact relationships on a species or its ecosystem to complexities of consumptive and non-consumptive uses of species, we need conservationists to foster collaboration by demographers, economists, and sociologists. The human domain in which issues of extinction generally will be settled is political, at local, national, and international levels. There a balance has to be struck among ethical, financial, socioeconomic, and biological considerations. We need the most cogent information to bring to the decisions in this realm, and we need it organized to best effect. To these ends, the conservation community must encourage the rapid development of systems for not only better categorizing the conservation status of species, but also for determining logical priorities for conservation action more comprehensively than we have in the past.

In signing off this foreword, it is a pleasure to acknowledge and commend the diligence of WCMC staff, in particular Dr Brian Groombridge, in compiling this new Red List. They have made it a much more informative catalogue than previous editions, incorporating tabular formats developed for *Global Biodiversity* (WCMC, 1992)<sup>3</sup>, and have extended themselves in trying to minimize nomenclatorial confusions and choose appropriate taxonomies. I commend it to all concerned with the status of faunas worldwide, for the List makes obvious that all of us should be concerned by its magnitude and meaning for the existence of our fellow creatures.

George B. Rabb Chairman, Species Survival Commission IUCN - The World Conservation Union

<sup>&</sup>lt;sup>1</sup> Fitter, R., and Fitter, M. (Eds.). 1987. The Road to Extinction. IUCN, Gland.

<sup>&</sup>lt;sup>2</sup> Williams, P.H., Vane-Wright, R.I., and Humphries, C.J. (in press). Measuring biodiversity for choosing conservation areas. In, J. LaSalle and I.D. Gauld, (Eds.). *Hymenoptera and Biodiversity*. CAB International, Wallingford, UK.

<sup>&</sup>lt;sup>3</sup> World Conservation Monitoring Centre. 1992. Global Biodiversity: Status of the Earth's Living Resources. Chapman and Hall, London.

## INTRODUCTION

#### **PURPOSE**

The IUCN Red List of Threatened Animals includes lists of those species and subspecies known or suspected to be threatened with extinction, and those known or believed to have become extinct in the wild. The Red List complements the IUCN and IUCN/ICBP Red Data Books and the IUCN-SSC Action Plans, which contain more detailed information; it is published periodically, usually at two-year intervals.

The Red List is compiled and maintained for IUCN by the World Conservation Monitoring Centre (WCMC) with the advice of the IUCN-SSC Specialist Groups and the assistance, with regard to birds, of BirdLife International (formerly ICBP).

The present edition differs greatly from its predecessors. The contents have been rearranged, the size and layout have been redesigned to make the book easier to use, and more distribution information is given, usually including a full list of range states. We have endeavoured to update or correct information on nomenclature and distribution, to change categories as appropriate, and to add species that have been recognised as globally threatened since the last edition (a few species previously listed but now not considered threatened have been removed). For the first time in the Red List a more complete list of species known or believed to have become extinct in the wild since around 1600 AD is provided.

#### STRUCTURE OF THE 1994 RED LIST

The lists are arranged taxonomically. For each threatened species, the scientific name, IUCN status category and countries of occurrence are given (for widespread and strictly marine species a general description of the range is provided instead of a list of countries). For many species common names are indicated, usually in English but sometimes in other languages.

Previous editions of the Red List contained a single list. In order to improve clarity in the present edition we have divided the material as follows:

- List 1: THREATENED SPECIES, comprising the central catalogue of threatened species, including species suspected to be threatened (category K);
- List 2: EXTINCT SPECIES, including those species categorised by IUCN as Ex or Ex? together with other species that have become extinct since around 1600 AD but have not previously been categorised in the Red List;
- List 3: THREATENED GENERA (etc), comprising entries for genera and other higher taxa used in previous editions that were not resolved to species level;
- List 4: THREATENED AND EXTINCT SUBSPECIES, including all threatened subspecies whatever their category and extinct subspecies;
- List 5: COMMERCIALLY THREATENED species.

The reader is referred to the Explanatory Notes below for further discussion of the content of these lists, and of the tables derived from them.

Our intention in making this rearrangement has been to provide the most sound basis possible for the next edition of the Red List, in which use of the new IUCN system of categorisation is envisaged. At the time of writing (late 1993) this is nearing its final formulation (see the Guest Essay for further discussion).

#### SOURCES OF STATUS INFORMATION AND OPINION

The threatened species lists are based on information provided by numerous scientists and naturalists working in the field. The core of the present Red List consists of species known or suspected to be threatened, as identified over many years during production by IUCN, WCMC and BirdLife International of earlier Red Data Books and Red Lists. In this revised edition of the Red List we have incorporated information from two main sources:

- the IUCN-SSC taxonomic and regional Specialist Groups;
- · national Red Data Books or equivalent listings.

The Specialist Groups were notified of this revision process in February 1993 and the majority of groups responded, either with recommendations for no change, or with extensive new listings and recategorisations. Compilation was completed in early October 1993.

We have added many threatened species from national Red Data Books available to us whenever we were able to determine that the species in question is endemic to that country, or virtually endemic, and so by definition globally threatened at the species level. Most such additions have been among the reptiles, amphibians or fishes; few invertebrates have been added from these sources because it has rarely been possible in the time available to determine which are single country endemics. No subspecies have been entered from national sources.

BirdLife International have, as in previous editions, been responsible for the basic list of bird species considered threatened, and for their categorisation. We have in a few cases modified the nomenclature of genera and species to accord with Sibley and Monroe (1990, 1993). A new global assessment and listing of threatened birds is in an advanced stage of preparation by Birdlife International, and rather than attempt a partial and provisional revision of the bird section of this present Red List, which would soon be outdated by the new bird list, it has jointly been decided to retain substantially the same species treated in *Birds to Watch* (the 1988 ICBP world list of threatened birds). These species were subsequently given an IUCN category in the 1990 IUCN Red List. This 1990 publication, revised to take account of *Threatened Birds of the Americas* (Collar *et al.*, 1992), has provided the basis for the present list. We have therefore not added any threatened and endemic bird species from national sources, or changed any categories, even in the many instances where this would have been possible. There are a few minor differences between the present list and *Birds to Watch* in addition to those consequent upon publication of *Threatened Birds of the Americas* (see Explanatory Notes: List 1).

The national Red Data Books and other national sources from which species have been extracted are listed in the References below. We have reviewed a large number of such sources but not all; several that have been reviewed contain no species that we were able to identify as nationally endemic; these sources are not listed. Most national Red Data Books or similar works have used IUCN status categories and, where this is so, we have entered the same category. Where other systems have been used, we have used the equivalent IUCN category where the category given was defined unambiguously; otherwise, we have used the 'Insufficiently Known' (K) category, unless sufficient background documentation was provided to allow us to assign a category independently. We have not added species from national lists which provide no category or documentation unless supporting information was available from another source.

The use of multiple sources of information entails the risk of taxonomic inconsistency; we have tried to verify the nomenclature and distribution given in national sources, but it remains possible that a few species may have been listed twice under different names, or taxa may have been listed at an inappropriate rank.

Our task during this revision has been primarily to gather and collate information, and to produce the listings. We have not attempted a comprehensive review of the existing list beyond revisions suggested by

Specialist Groups, nor have we been responsible for critically reviewing proposals from the Specialist Groups, or the listings given in national Red Data Books (other than the general conditions noted above). This kind of thorough review will of necessity be undertaken when the new revised IUCN status categories come into use.

We have unilaterally added a few species which were not proposed by a Specialist Group or were not derived from a national Red Data Book. An example is the recently-described Vu Quang bovid *Pseudoryx nghetinhensis* (Vu Van Dung *et al.*, 1993), which, in view of its very small estimated population size and very restricted known range, we have listed as Endangered.

In a very few cases we have unilaterally changed existing or proposed category designations, or removed species previously listed, where the existing criteria for a particular category, or for listing at all, were beyond dispute not satisfied. This has usually been on the basis of new evidence or opinion. In the absence of such evidence, we have left categories unchanged even where they might not withstand challenge. In one or two marginal cases, rather than risk removing a species prematurely, we have revised the existing category to indicate a lesser degree of threat, or less certainty (to Insufficiently Known).

#### THE EXTENT OF STATUS ASSESSMENT

The Red List is a global catalogue of those species that have been assessed in some degree and which meet, or are suspected to meet, the current criteria for threatened status. It is not comprehensive, because not all species have been collected and described, and the conservation status of all described species has not been evaluated.

The proportion of each phylum or class that has received such assessment differs greatly between groups. Virtually all bird species have been subject to at least provisional assessment. Probably a little more than half of mammal species have been considered, although a large number of insectivores, rodents and microbats remain unassessed. Our best estimates suggest that around 20% of reptiles, 12% of amphibians, probably less than 10% of fishes, and an insignificant proportion of invertebrate animals have been assessed (although many species in certain invertebrate groups, such as dragonflies, butterflies and molluscs have been considered). Informal estimates of the proportion of species assessed, and the proportion threatened, in vertebrate higher taxa are shown graphically in Figure 1.

It has not consistently been past practice in compiling Red Data Books or Red Lists to attempt to include each and every species that could be assigned to the categories Insufficiently Known or Rare. Such species will require attention in future if the goal is to increase the number of higher taxa that have been thoroughly assessed. One very large subset of these species is comprised of those known only from their type locality (in many instances, the type material was collected many decades ago). For example, of the 4,014 nominal species of amphibian listed in Frost (1985), around 700 are reportedly known only from the type locality. Each one of these is at least Insufficiently Known or Rare, on present information, and should be categorised as Indeterminate (ie. possibly Endangered) if habitat change has been extensive in the vicinity of the type locality. There will be no exact equivalent of the current Rare category in the proposed new category system, and 'type locality only' species are likely to be classed as Insufficiently Known until better data are available (this does not denote threatened status in the new system).

#### SOURCES OF TAXONOMIC INFORMATION

The conflicting interests of promoting stability, following the latest or best systematic opinion, and the preferences of particular SSC Specialist Groups, have resulted in some compromises.

The following paragraphs note the main taxonomic sources used. We have whenever possible used recent global checklists of species for both nomenclature and sequence of taxa. There is a good deal of merit in following the practice of the world list of amphibians edited by Frost (1985), where orders, families, genera

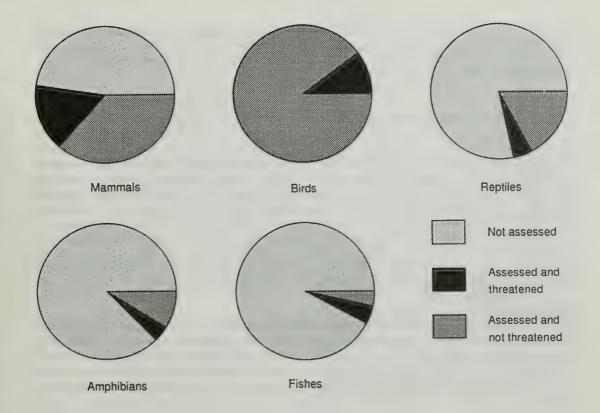


Figure 1. Pie charts to show the approximate percentage of species in major vertebrate groups that have been assessed for threatened status, together with the proportion of those assessed that are considered threatened or not threatened.

and species are all listed alphabetically. We did not adopt this for the present revision because many users are very familiar with the traditional and supposed evolutionary sequence in mammals and birds. Familiarity also caused us to adopt the conservative higher taxonomy of Morony, Bock and Farrand (1975) rather that the somewhat radical system of Sibley and Monroe (1990), although we have followed the latter source at the species level. Throughout the Red List, familiar synonyms (and sometimes other nomenclatural comments) are given in parentheses.

#### Mammals

The names and sequence of orders and families, and the species content of families follows Wilson and Reeder (1993). Genera and species are alphabetical within families. Species nomenclature generally also follows this source, except when a Specialist Group has expressed a very strong preference for another system, or has used nomenclature different from Wilson and Reeder and we have been unable to resolve consequent ambiguities about the population content of species and their distribution. Principal departures from Wilson and Reeder, relatively few in number, are found in the primates and bovids.

#### **Birds**

Nomenclature for genera and species follows Sibley and Monroe (1990, 1993). The names and sequence of orders and families, and the species content of families follows the more familiar system of Morony, Bock and Farrand (1975).

#### Reptiles

Turtles and tortoises generally follow Iverson (1992). The chief exception is *Chelonia agassizii*; recent work on mitochondrial DNA (K. Bjorndal, *in litt.*) has shown treatment at species rank separate from

Chelonia mydas, which many conservationists had adopted, to be inappropriate. Crocodilians follow King and Burke (1992). Names in common use, including by Specialist Groups or in national sources, have been employed for other groups of reptiles: there is as yet no standard world species checklist for lizards, amphisbaenians or snakes.

#### **Amphibians**

Nomenclature and sequence consistently follow Frost (1985).

#### **Fishes**

The names and sequence of orders and families, and the species content of families follows Eschmeyer (1990). Genera and species are alphabetical within families. Names in common use, including by Specialist Groups or in national sources, have been employed at the species level: there is as yet no published standard world species checklist for fishes. We have changed some family names given in contributions from the SSC Freshwater Fish Specialist Group in order to conform with the taxonomy of Eschmeyer. In particular, the Australasian Rainbowfish are given subfamily rank by Eschmeyer (Atherinidae: Melanotaeniinae) but family rank (Melanotaenidae) by local ichthyologists. Similarly, we have followed Eschmeyer in treating the Pseudomugilidae of Australasian sources, and the Austroglanidae used by Southern African sources, as subfamilies of Atherinidae and Bagridae, respectively.

#### **Invertebrates**

Parker (1982) has in general been followed for nomenclature at family level and above. Molluscs, which follow Vaughan (1989) for genera and above, are the primary exception. In one or two cases a contributor has recommended against use of a name in Parker (1982); for example, in view of current shifts in systematic opinion no family name is given for the terrestrial nemertean worms. A variety of sources, mostly listed in the references below, or cited therein, have been used for insects and other invertebrate groups.

#### TAXONOMY AND CONSERVATION

The interaction of taxonomy and conservation raises many issues, including the problem of identifying the units of conservation concern, and the divergence between the need for stability of nomenclature and the pursuit of systematic excellence.

In general, a threatened species tends to be given higher priority than a threatened subspecies, largely on the assumption (founded on the biological species concept) that a more distinct element of biodiversity is at risk. It is entirely legitimate, on both theoretical and pragmatic grounds, for the species to be the basic currency in global conservation action and biodiversity assessment. We have deliberately focused attention on threatened species in this Red List. Nevertheless, some difficulties must be recognised. Firstly, although the species is conceptually a real and fundamental unit in the biological hierarchy, there is no universal and operational definition of what constitutes 'a species'. The properties deemed sufficient to justify full species status vary among taxonomists working on the same group of animals. They also of necessity vary between groups (because they possess different features that can be identified as taxonomic characters), so that a species in a family of large mammals is not the precise equivalent of a species in a family of beetles. A second difficulty is that there is an opportunity for taxonomy to take on a strategic element, and for more populations to be recognised as species than might otherwise be the case.

These factors give rise to the basic truism that the delineation of species boundaries and the taxonomic rank of populations will have a fundamental impact on the conduct and efficiency of conservation actions. Similarly, they ensure that for the foreseeable future there will be a large margin of error associated with statistical treatment of biodiversity measures and listings of threatened and extinct species. This should be recalled when considering the various tabulations provided in this book.

Conservationists, particularly those involved in conservation legislation and control of illegal trade, require

stability of nomenclature to help avoid misunderstandings, both unintentional and otherwise. This need underlies widespread move toward use of 'standard taxonomy' by CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora). One risk of this approach is that it become difficult to take account quickly enough of new systematic evidence and opinion. Taxonomists generate nomenclature and classifications based on current systematic philosophy, hypotheses, and research tools, which ensures a degree of instability. Comparison of the first and second editions of the familiar Mammal Species of the World is of interest (the former volume was adopted by CITES as the standard taxonomy of mammals).

A total of 4,170 species were listed in the first edition of Mammal Species of the World (Honacki et al., 1982) and 4,629 in the second (Wilson and Reeder, 1993); a net increase of 459 species. Only in the South American marsupial Orders Didelphimorphia (63 instead of 76), Paucituberculata (five instead of seven) and in Hyracoidea (six instead of seven) are there fewer species listed in 1993 than in 1982. The size of the net increase is somewhat surprising, given that mammals are a relatively well known group, but perhaps the most interesting point is that new species descriptions, of which 172 are recorded, comprise the lesser proportion of this total. The remaining 287 species of the

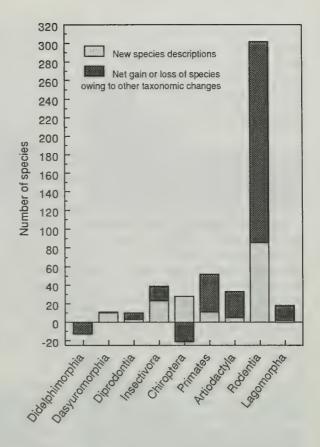


Figure 2. Changing concepts of species richness in mammals: 459 more species are recognised in the second (1993) edition of Mammals of the World than in the first (1982). Graph to show both (a) the number of new species descriptions and (b) net gain or loss of species largely or entirely because of changes in the taxonomic rank of populations. Note that taxonomic splitting has had greater effect on the overall increase in species number than new species descriptions. Based on data in Wilson and Reeder (1993); graph does not show Orders with trivial or no change.

total added in the second edition must be the result of taxonomic splitting (or largely so, if there is difference in the extent to which extinct species are listed, or some similar factor). Some of these changes are portrayed graphically in Figure 2. This very marked trend may be correlated with the fact that the second edition explicitly takes a far less consensual approach than the first, and so reflects closely the views of a relatively small number of mammalogists. The Orders Rodentia, Primates and Artiodactyla have increased most in species content, with in each case around 75% resulting from taxonomic splitting (and many of these primates appear in this Red List). Primates, with an additional 52 species, have undergone by far the largest percentage increase of any mammal Order (except for Notoryctemorphia, erected for *Notoryctes* which now has two species instead of one).

Clearly, changes in opinion on species boundaries such that populations formerly given subspecies rank (or perhaps not recognised as formal taxa) come to be treated as full species, have had a major impact on our world view of mammalian diversity and will in turn have repercussions for the users of this taxonomy, including the conservation community.

Some level of taxonomic change is both inevitable and desirable, if new methods and new studies are to

be pursued, but taxonomists sometimes appear oblivious to the needs of users of taxonomies. As just one example, sources in Wilson and Reeder (1993) note that the dormouse genus *Glis* Brisson 1762 is invalid and the earliest valid replacement is *Myoxus* Gray 1821. Adoption of this name, not used for decades, requires changing the family name from Gliridae to Myoxidae, and denies mammalogists *Glis glis*, a name both familiar and euphonious. The pragmatic taxonomist would not have agonised over the validity or otherwise of eighteenth century names, but kept his own counsel, or petitioned the International Commission on Zoological Nomenclature to conserve the familiar name under Article 79 of the Code.

The case of the second *Sphenodon* (Tuatara), discussed by Daugherty *et al* (1990) exemplifies some practical consequences of changes in taxonomic rank of populations. This genus is of exceptional zoological interest as the only survivor of the Order Rhychocephalia, otherwise known by a wide diversity of fossil forms mainly of Triassic age. Since 1904 all extant Tuatara populations had been recognised as comprising the single species *Sphenodon punctatus*, restricted to offshore islands of New Zealand, although in neglected nineteenth century literature one additional extant species and one recently extinct were recognised. Recent analysis of allozymes and morphology reported by Daugherty *et al* demonstrated that the form originally described at species level but traditionally put in the synonymy of *S. punctatus* is indeed sufficiently distinct to require full species status as *Sphenodon guntheri*. The practical consequences are that while the Tuatara was perceived as monotypic, the 'species' appeared relatively abundant, although localised and at risk. Some 25% of island populations are known have become extinct during the past century, and *S. guntheri* could very easily have disappeared with little or no notice being taken. Now *guntheri* is recognised as the second Tuatara species it immediately takes on a very high priority for conservation, particularly because it is restricted to 1.7 ha of scrub on North Brother Island, its single world locality.

Given the general goal of maintaining biological diversity, it is in theory desirable to identify and promote the wise management of all genetically distinct populations; the existing scheme of biological taxonomy seems not in practice the best tool for identifying and cataloguing such populations, and was surely never intended to be. While a subspecific name can often serve as a useful label, and may reflect substantial genetic differences between geographically isolated populations on islands or mountain tops, where there is no correlated geographic isolation it may be a poor indicator of the magnitude of intraspecific genetic differentiation. Subspecific taxa seem too often based on small samples, arbitrary division of clinal variation, and superficial characters of pelage colour, squamation and suchlike (discussed for reptiles by Thorpe, 1980, 1984), to be universally a useful surrogate for assessment of the extent of geographic isolation and use of more direct markers of genetic differentiation.

#### THREATENED ANIMALS: COMMENTARY

Statistical data derived from the 1994 Red List are presented in Tables 1-6. Some preliminary remarks on these are provided below; the intention is to note some features of interest while further analysis of these and related data is pending.

The tables include threatened full species only, together with the extinct full species treated in Table 6. Subspecies and commercially threatened (CT) species are excluded. The species assigned to genera in List 3 have usually also been taken into account, but this has not been possible in all cases.

It is vital to keep in mind that these data are shaped by many factors. Some groups of species have been assessed more completely than others; some countries have carried out national assessments and produced national Red Data Books. These species and these countries will be represented in the lists more fully or more accurately than others. Further, there is significant variation in the way status categories have been interpreted and applied, and uncertainty over species boundaries and the taxonomic level of populations. However, although these data are not globally comprehensive, and have some margin of error arising from misclassification of entities into taxa or status categories, they are the best and most complete set of data available.

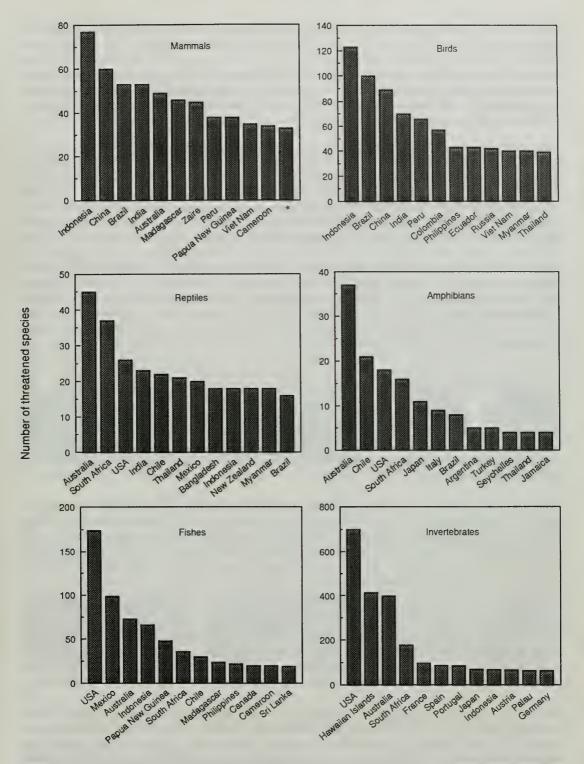


Figure 3. Bar graphs to show the 12 countries with the highest number of threatened species in each major taxonomic group. Note that this includes species suspected to be threatened (K) as well as those known to be threatened (E, V, R and I). The asterisk \* in the mammal graph denotes three countries with an equal score (Argentina, Laos, Thailand).

Table 1 summarises the number of species in each threat category for each Order of animals in the Red List.

Virtually all animals are invertebrates, and most threatened animals are invertebrates, but the total number of invertebrates listed as threatened (2,754) is a scarcely perceptible proportion of the estimated global species richness of invertebrates. This last has been estimated conservatively at around ten million species, of which perhaps one-tenth have been described (Hammond, in WCMC, 1992).

This relatively very low representation of invertebrates seems probably to be more a reflection of the low level of information on the range and status of such animals, than an indication of a generally low risk of extinction, but this must be properly assessed on a group by group basis. Almost all the invertebrate species listed are molluses or insects, in about equal proportion. Around half the insects are beetles, nearly half are butterflies and moths, most of the remainder are damsel- and dragonflies. Many of these animals can be monitored in the field without insuperable difficulty; molluses because of the hard shells of most species, and the insects because many are relatively conspicuous diurnal winged forms.

Among the vertebrates, fishes and birds have similar numbers of species listed as threatened (977 and 971 respectively); these totals comprise about 4% of fish species but 10% of birds. This disparity is certainly due to a difference in the extent to which these two groups have been assessed. Many more fishes appear in this edition of the Red List than previously because more ichthyofaunas have been evaluated. One clear lesson to have emerged from this compilation is that wherever surveys are made, more fishes are found to be threatened, usually by introduced non-native fish species or habitat modification.

A total of 741 mammal species are considered threatened; this represents almost 16% of the 4,629 species now recognised. This is the highest proportion of the total species content for any of the higher taxa considered.

Mammals and birds have a similar number of Endangered category species, 177 and 188 respectively, representing 3.8% and 1.9% of all the species in each group. Reptiles, amphibians, fishes and invertebrates have 47, 32, 158 and 582 Endangered species, representing 0.7%, 0.7%, 0.6% and at the very most 0.05% of species in each group.

Two very small mammal Orders have all extant species listed as threatened: the two elephants and four sirenians. Most Perissodactyla, 12 of 18 species, are threatened. In terms of number alone, seven Orders have more than 50 threatened species listed. These are, in descending sequence: Rodentia 118, Primates 113, Carnivora 99, Artiodactyla 81, Cetacea 77, Insectivora 73 and Chiroptera 72. If Insufficiently Known taxa are excluded, there are five Orders with more than 50 species listed: Primates 105, Rodentia 87, Artiodactyla 75, Chiroptera 64 and Carnivora 63. It is interesting to note that the top three Orders are also those that have undergone most taxonomic splitting (Figure 2). If the five values are calculated as a percentage of described species in each Order, the sequence is: Primates 45%, Artiodactyla 34%, Carnivora 23%, Chiroptera 6.9% and Rodentia 4.3%. Primates, with 43, have by far the highest number of Endangered species among mammal Orders; Artiodactyla are second with 31, about twice as many as any of the remaining Orders. It remains to be seen whether continuing conservation assessment of other mammal groups, which generate less popular concern, will shift the balance of these figures, or whether they are an accurate measure of relative extinction risk.

Tables 2 and 3 give country-based data on threatened animals. Figure 3 shows countries with the highest number of threatened (E, V, R, I) and possibly-threatened (K) species combined in each higher taxonomic group. It is difficult objectively to disentangle the factors that contribute to these rankings. Certainly the extent to which countries have carried out national faunal surveys and conservation assessments is a major determinant, as is the extent to which IUCN-SSC Specialist Groups have been active. Species richness, land area and the magnitude of faunal depletion are other key factors.

Indonesia, Brazil, China and India are among the five countries with the most threatened mammals and birds. They are all also large, ecologically diverse and species-rich countries, and hold a large number of species in the better-assessed groups. Australia, USA and South Africa also figure prominently in Figure 3; these are similarly large and species-rich, and their faunas have been subject to detailed study and assessment. However, while the relationships involved are complex, there is no reason to suspect that the ranking of countries in this compilation is not a reasonable working indication of the overall geopolitical location of species at risk of extinction.

Table 5 summarises the number of species in each major taxonomic group listed as threatened in the 1990 and 1994 Red Lists. All groups except birds have many more species listed in 1994 than in 1990: approximately 1500 more species overall are listed in the present edition. This can not be interpreted directly as an overall increase in the risk of extinction. Among reptiles, amphibians, fishes and invertebrates, virtually all the increase can be attributed either to recent assessment of groups not or incompletely evaluated before, or to the inclusion in this edition of species from national Red Data Books and lists. Much the same appears true for mammals. For example, many more cetaceans and bats are listed following publication, respectively, of a Red Data Book and an Action Plan for these groups (Klinowska, 1991; Mickleburgh *et al.*, 1992). In several instances, and virtually only among mammals, species previously evaluated and not considered threatened have been moved to one of the threatened status categories; this may reflect the collection of new data, a deterioration in status, or inconsistency in the application of categories. Only the total for birds is lower in 1994 than in 1990. This reduction is mainly because a number of birds are no longer considered threatened *sensu* IUCN following reassessment during preparation of the *Threatened Birds of the Americas* Red Data Book (Collar *et al.*, 1992); changes to the taxonomic rank of a few populations have reduced the total of those listed at species level.

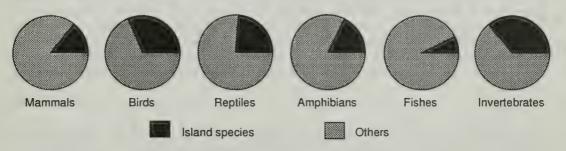


Figure 4. Pie charts to show approximate numbers of threatened species restricted to islands as opposed to 'others' - those occurring on continents or continents plus islands. Madagascar, Japan (main group), Bornec, Sumatra and Java have not been counted as islands for the purposes of this estimation.

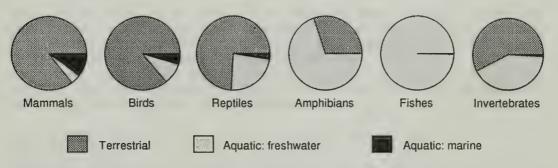


Figure 5. Pie charts to show approximate numbers of threatened species present in terrestrial or aquatic habitats. Aquatic species include cetaceans and a few other mammals, waterbirds, seabirds, sea turtles and water snakes, most amphibians, invertebrates with an aquatic stage in the life cycle, and of course all fishes. The aquatic species are divided into freshwater and marine.

A high, but not the greater, proportion of threatened species are restricted to islands; see Figure 4 (islands, for the purposes of this very broad overview, exclude Madagascar, Borneo, Japan, Sumatra but include most others). A high proportion of threatened species are aquatic; see Figure 5. These comprise both fully aquatic forms and those, including most of the amphibians and many invertebrates, with an obligatory aquatic stage in the life cycle. Few of the aquatic forms listed are marine species; cetaceans comprise the majority of these.

There is good reason to believe that historical records of extinctions since around 1600 AD are heavily biased geographically and taxonomically. The data that are available indicate that around 75% of recorded extinctions in this period have occurred on islands; almost all bird and mollusc extinctions have been recorded on islands. Very few species extinctions have been recorded in continental tropical forest habitats, where mass extinction events have been predicted to be underway. The patchy and similarly biased timeseries data that can be assembled indicate that island extinctions in this period began some 200 years earlier than continental extinctions, and that rates in both areas have increased rapidly from around the middle of the last century to the middle of the present century. Extended discussion of extinct species and rates of extinction is provided in WCMC (1992: chapter 16).

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The database from which this list is produced is constantly being updated, with changes arising as new studies are undertaken or as groups not previously assessed are examined. It is inevitable in a publication of this nature that readers will find entries that require correction or updating. We would be most grateful if any relevant information could be sent to the address below.

Requests for sub-sets of data (geopolitical or taxonomic) for educational or conservation applications may be directed to Information Services at the address below.

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- <sup>1</sup> the Action Plans listed include only published documents not used in the 1990 Red List; it excludes the draft Cat Action Plan, used in provisional form for the present Red List, and excludes those used in draft form for the 1990 Red List which have since been published.
- <sup>2</sup> this is not a bibliography of country Red Data Books; it only includes sources from which single-country endemic species have been extracted for the 1994 IUCN Red List.
- <sup>3</sup> excluding those cited in the 1990 Red List and not consulted for this revision.

#### EXPLANATORY NOTES

## NOTES ON THE LISTS AND TABLES

Each entry includes: a single letter (E, V, I, K) or two (Ex, Ex?, CT) indicating the IUCN status category, the scientific name, and geopolitical distribution. Many entries also include a common name. Some marine species have a general distribution rather than a list of countries. The following annotated examples should aid interpretation of the taxon entries.

E<sup>1</sup> Eulemur mongoz<sup>2</sup>
(Lemur mongoz)<sup>3</sup>
Mongoose Lemur<sup>4</sup>
Comoros<sup>5</sup>: Mwali<sup>6</sup>, Nzwani; Madagascar<sup>7</sup>

I Pterodroma hasitata

Black-capped Petrel

Cuba; Dominican Republic; Haiti. \*8 Caribbean and western North Atlantic

R Syrmaticus reevsii
Reeve's Pheasant
China
[Czechoslovakia<sup>9</sup>]<sup>10</sup>

#### List 1. Threatened species

This list includes those populations recognised at the species level by the taxonomic sources used that have been assessed and assigned to one of the current (non-revised) IUCN status categories. These categories are named and defined below.

Only species regarded as globally threatened are included. This has the regrettable but unavoidable consequence that no attention is drawn to purely local or national problems. For example, there is great concern in India about the Grizzled Giant Squirrel Ratufa macroura; the population, restricted to the southern states of Tamil Nadu and Kerala, has been estimated at only 300 animals. However, the species also occurs in Sri Lanka, where it widespread at a variety of altitudes and in different habitats, and is not

<sup>1</sup> IUCN status category

<sup>&</sup>lt;sup>2</sup> Scientific name.

<sup>&</sup>lt;sup>3</sup> Alternative scientific name (synonym).

<sup>&</sup>lt;sup>4</sup> Common name (usually English).

<sup>&</sup>lt;sup>5</sup> First country of occurrence.

<sup>&</sup>lt;sup>6</sup> Island (or other area) within first country.

<sup>&</sup>lt;sup>7</sup> Second country of occurrence (countries separated by semi-colon).

<sup>&</sup>lt;sup>8</sup> Within birds only, an asterisk separates breeding range (left) from non-breeding range (right); vagrant records are excluded.

<sup>&</sup>lt;sup>9</sup> Recent political events are reflected as accurately as possible but there are some entries for the former Czechoslovakia and USSR that have not been resolved in terms of new boundaries, and many entries for the former Yugoslavia retain the name of the old federation.

<sup>&</sup>lt;sup>10</sup> Square brackets indicate introduced populations; populations that have been reintroduced within their former range are denoted by appropriate text.

listed as threatened in the country (Wijesinghe et al., 1989). Because it is not globally threatened it is not listed in the present Red List. This is just one example among very many.

All species have been assigned to a single category except those from *Threatened Birds of the Americas* (Collar \*\*: tal, 1992) that were given a dual category in that book (the reader is referred to the introduction of that volume for discussion). Very many species are given a mixed R/K category in the provisional draft of the Action Plan for Australian Reptiles made available to us, but given a policy of not using mixed categories and a recommendation not to include all potential K species from the draft, we have omitted them from this list.

Confusion and possible inconsistency exists over the position of 'Insufficiently Known' (K) taxa. Some texts include this category with others which collectively denote threatened status, other texts exclude it from that group. Insufficiently Known species are commonly regarded as threatened species even though while insufficient data are available to make a firm determination they remain only *suspected* of being threatened, and so by definition have not actually been identified as threatened species. We feel it would have been very useful clearly to distinguish such taxa from species known to be threatened, but have retained 'K' species in the main listing, largely in deference to common usage, which tends to class 'K' species with those more certainly threatened (R, I, V and E categories). As noted above, Insufficiently Known species are in the draft new category system explicitly not to be understood as threatened species.

The few 'T' designations given in past editions, indicating that different populations of the species in question had been assigned different status categories, have all been modified by us to reflect a provisional category for the species as a whole.

As noted above, it has jointly been decided by the SSC and BirdLife International that the bird listing will remain substantially the same as in the 1990 Red List (which gave categories to species listed in Birds to Watch (Collar and Andrew, 1988). The list has been revised to take account of Threatened Birds of the Americas (Collar et al. 1992), which entailed the removal of many species and the addition of others. There are a few other differences between the present list and the 1990 Red List. One bird species (Dasvornis brachypterus) inadvertently omitted from the 1990 list has been included, with the status category given in The Action Plan for Australian Birds (Garnett, 1992). In two cases, populations previously treated as subspecies of species themselves categorised as 'Rare' (R) (Phalacrocorax carunculatus, Polyplectron malacense) have been elevated to species rank in Sibley and Monroe (1992) and are here provisionally listed as 'R'. Similarly, a few taxa formerly treated at species level are given subspecific rank in Sibley and Monroe, and this is followed herein. This has had two effects on the present lists. Where other conspecifics were previously listed in the 1990 Red List there is now an appropriate revised entry in the main threatened species list (eg. Gallinula nesiotis, for the Tristan da Cunha form nesiotis, regarded as extinct, plus the Gough Island form comeri, previously listed as Rare). Where conspecifics were not listed previously there is now an entry in the subspecies list (eg. Pterodroma hasitata caribbaea for the probably extinct Jamaica Petrel, treated as E/Ex at species level P. caribbaea in Collar et al. 1992).

# List 2. Extinct and probably extinct species

This list includes species that have been assigned to the IUCN status category Extinct (Ex) in previous editions of the Red List and in Red Data Books. This category includes species that have not definitely been located in the wild during the past 50 years. Many species have not been seen within this period, but nor have they been looked for, and there has been no attempt to list all such species here. A subset of this category (Ex?) includes species that have been seen within the past 50 years but are believed with near certainty to be extinct. Similar species that are only possibly extinct should according to the current definitions be listed as Endangered.

We have also included here species that are known or believed to have become extinct since 1600 AD or thereabouts (WCMC, 1992) and which have never appeared in previous Red Lists nor been given a status

category. To distinguish these they remain without a category in the list. For many of these latter species (and some of those with a category) the date shown in parentheses indicates variously the last collection, the last observation in the wild, or the time of extinction.

There are 23 bird taxa which have been given the joint category 'E/Ex' by BirdLife International. Those that are treated at species level by Sibley and Monroe (1990) (not the Magdalena Tinamou or Jamaica Petrel [see notes to List 1 above]) are listed in the main threatened species list even though at least seven of the 21 species are almost certainly extinct. None is included in the Extinct species list. The full species are counted as Endangered in the tables.

In almost all cases there is no positive evidence of extinction, only an accumulation of negative evidence; several species once thought recently extinct have been rediscovered and doubtless others will be in future. On the other hand, there are good grounds for believing that many species have become extinct unnoticed and sometimes undescribed. Note that changes in species level taxonomy have a significant effect on this list; a few extinct populations formerly treated as full species are now treated as conspecific with extant populations, and so do not appear below (the reverse is also possible).

# List 3. Entries for genera and other higher taxa

This list includes entries for genera or higher taxa, entire or in part, that appeared in the 1990 Red List or earlier publications and that have not been resolved to the single species level. Some previous group entries have been so resolved and now appear in the main threatened species list. The category assigned to the Lake Victoria cichlid fishes has been changed from Endangered (E) to Indeterminate (I) in the absence of adequately detailed species-specific population data for the lake as a whole (Indeterminate is an inclusive category covering inadequately known taxa that may have recently become extinct, or which are seriously declining or which may simply be Rare; see status category definitions below). There is no doubt that a very marked decline in cichlid abundance has occurred in Lake Victoria (Witte *et al.*, 1992) linked to the introduction of a large predator (Nile Perch *Lates* sp.) and probably to over-fishing, but it is not possible to determine which individual species are actually Endangered. Where possible, the relevant number of species within the groups listed here are included in the tabulations.

## List 4. Threatened and extinct subspecies

Previous editions of the Red List mixed full species and subspecies in a single list. This led to some minor confusion. Threatened populations at subspecies rank are by most standards (and all else being equal) of lesser priority than threatened species, assuming reasonable taxonomic consistency between taxa being compared. It is also evident that subspecies descriptions are not infrequently based on minor superficial features; in several cases subspecies names in common use have been demonstrated to accord only poorly with genetic differentiation assessed by biochemical and other tools. These several considerations have led us to list subspecies separately from species.

In the subspecies list we have made no attempt to add subspecies other than those suggested by contributors. We have tried to ensure that, if appropriate, an entry exists in the full species list whenever all described subspecies have been proposed as threatened. The list therefore consists largely of taxa previously listed, and while some nomenclature has been revised, some outdated names and other inconsistencies are likely to remain.

Subspecies have been excluded from all tables.

# List 5. Commercially Threatened species

This contains species categorised as Commercially Threatened (CT). These species should not be regarded as threatened with extinction in the same sense that those in the main species list categorised as

Endangered, Vulnerable, Indeterminate or Rare are believed to be. The CT category means that the species were considered to be threatened as a sustainable commercial resource; pending further evaluation of the full implications of listing such species we have thought it advisable to distinguish them clearly from other listed species. All species (with the exception of the Pigtail Macaque, proposed in 1993 for listing as V or CT) were previously listed as Commercially Threatened in the 1990 Red List or earlier publications and have not been critically evaluated since. We have not attempted to update nomenclature or resolve marine distribution at country level.

Commercially Threatened species have been excluded from all tables.

#### Distribution information

Distribution is generally given in terms of country names; it is geopolitical not purely geographic. Unless geographically very remote from each other, islands and other territories are included with the parent country; the Hawaiian Islands have been recorded separately. Many distribution entries include within-country information. This is usually when a species occurs on a few islands of an island state; occasionally when otherwise restricted, a mountain or river system is named.

Although we have given general distribution information for all marine species, including cetaceans, we have not given country distribution records for cetaceans other than the freshwater and estuarine or coastal species with a relatively restricted range. In most other cases, country records for cetaceans reflect the distribution of research or whaling activity more fully than the presumed world distribution of the species. We have attempted to give complete country records for other marine animals. All country records are included in the summary tabulations above.

Countries where a species is known to have become extinct in recent decades are not included. In several cases, a country name is followed by the annotation: (ex?). This indicates a significant possibility that the species is extinct in that country; this ancilliary information should not be confused with the IUCN status category.

Geopolitical events during recent years have led to some inconsistency and possible errors. In the absence at the time of writing of internationally recognised boundaries and names within the former Yugoslavia, we have continued to use that name in the distribution information and in the country tabulations. Of the component republics of the former federation of Yugoslavia, only Slovenia has been distinguished herein, although there are likely to be some species occurring there for which only Yugoslavia appears in the distribution section. For most species within the boundaries of the former USSR, we have been able to determine with reasonable confidence which new state they are present in. Some unresolved USSR entries remain in the invertebrate section. Similarly, there are a few entries for the former Czechoslovakia in cases where we have been unable to determine whether a particular species occurs in the Czech Republic or Slovakia, or both.

#### Notes on tables

All the tables cover taxa of species rank only; subspecies are excluded. The tables cover species that have been assigned to one of the standard IUCN-SSC status categories; the Commercially Threatened taxa (CT) set out in List 5 are excluded.

Tables 2, 3 and 6 for simplicity use the same major geopolitical units as in the distribution entries in the species lists. This results in loss of geographical resolution of some biological interest; in particular it should be noted that island territories of mainland countries are in most cases included with their parent countries. For example, the Canary Islands, which feature prominently in the mollusc lists, are included with Spain in the tables. However, the distribution entries in the species lists will indicate "Spain: Canary Islands", so the relevant information can be retrieved. The same applies to Madeira, the Azores, and several

other islands. Tristan da Cunha is included with St Helena. The Hawaiian Islands have a separate entry.

In the distribution entries in the lists below, unconfirmed occurrence of a species is indicated by "?" after the relevant country. All such unconfirmed occurrences are counted in the tables.

Note that a few species, mainly cosmopolitan marine forms, have distribution indicated in a generalised format, not country names; these are not included in the country-based tables (Tables 2 and 3). This applies to most cetaceans, three elasmobranch fishes, and very few invertebrates. It also applies to a larger number of species included in the genera recorded in List 3 (entries for genera and Lake Victoria cichlid fishes) for which country-specific data are lacking. We have retained the figure of 250 haplochromine and 2 tilapiine cichlid fishes in Lake Victoria cited in the 1990 Red List, although recent estimates suggest more than 300 haplochromine species are present, of which around 200 may be critically threatened. All these species (except in two genera for which we have no count of species number) are included in the taxonomic summary tables (Tables 1, 4 and 5).

In all relevant tables we have treated the 21 E/Ex and the 78 V/R bird species given mixed categories as categories E and V, respectively.

#### IUCN THREATENED SPECIES CATEGORIES

#### EXTINCT (Ex)

Species not definitely located in the wild during the past 50 years (criterion as used by the Convention on International Trade in Endangered Species of Wild Fauna and Flora).

N.B. On a few occasions, the category Ex? has been assigned; this denotes that it is virtually certain that the taxon has recently become extinct.

#### **ENDANGERED (E)**

Taxa in danger of extinction and whose survival is unlikely if the causal factors continue operating.

Included are taxa whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that they are deemed to be in immediate danger of extinction. Also included are taxa that may be extinct but have definitely been seen in the wild in the past 50 years.

#### VULNERABLE (V)

Taxa believed likely to move into the 'Endangered' category in the near future if the causal factors continue operating.

Included are taxa of which most or all the populations are decreasing because of over-exploitation, extensive destruction of habitat or other environmental disturbance; taxa with populations that have been seriously depleted and whose ultimate security has not yet been assured; and taxa with populations that are still abundant but are under threat from severe adverse factors throughout their range.

N.B. In practice, 'Endangered' and 'Vulnerable' categories may include, temporarily, taxa whose populations are beginning to recover as a result of remedial action, but whose recovery is insufficient to justify their transfer to another category.

#### RARE (R)

Taxa with small world populations that are not at present 'Endangered' or 'Vulnerable', but are at risk.

These taxa are usually localised within restricted geographical areas or habitats or are thinly scattered over a more extensive range.

#### INDETERMINATE (I)

Taxa known to be 'Endangered', 'Vulnerable' or 'Rare' but where there is not enough information to say which of the three categories is appropriate.

#### INSUFFICIENTLY KNOWN (K)

Taxa that are suspected but not definitely known to belong to any of the above categories, because of lack of information.

#### THREATENED (T)

Threatened is a general term to denote species which are 'Endangered', 'Vulnerable', 'Rare', 'Indeterminate', or 'Insufficiently Known' and should not be confused with the use of the same term by the U.S. Office of Endangered Species. In previous volumes it is has been used to identify taxa comprised of several sub-taxa which have differing status categories.

#### COMMERCIALLY THREATENED (CT)

Taxa not currently threatened with extinction, but most or all of whose populations are threatened as a sustainable commercial resource, or will become so, unless their exploitation is regulated.

This category applies only to taxa whose populations are assumed to be relatively large.

N.B. In practice, this category has only been used for marine species of commercial importance that are being overfished in several parts of their ranges.

Table 1. Threatened species: totals for higher taxa by status category

	E	٧	R	1 SU	BTOTAL <sup>1</sup>	к	TOTAL
Class: MAMMALIA							
ARTIODACTYLA	31	34	3	7	75	6	81
CARNIVORA	15	29	4	115	63	36	99
CETACEA	5	7	0	1	13	64	77
CHIROPTERA	16	22	18	8	64 10	8	72
DASYUROMORPHIA DIPROTODONTIA	6 16	2 17	2 4	0	37	0 2	10 39
HYRACOIDEA	0	0	0	1	1	0	1
INSECTIVORA	3	4	9	11	27	46	73
LAGOMORPHA	8	3	1	7	19	4	23
MACROSCELIDEA	0	1	1	0	2	0	2
MONOTREMATA	1	0	0	0	1	0	1
PERAMELEMORPHIA	3	2	1	1	7	1	8
PERISSODACTYLA	8	4	0	0	12	0	12
PRIMATES	43	48	9	5	105	8	113
PROBOSCIDEA	1	1	0	0	2	0	2
RODENTIA	19	19	37	12	87	31	118
SIRENIA	0	4	0	0	4	0	4
XENARTHRA	2	2	0	0	4	2	6
Subtotal	177	199	89	68	533	208	741
Class: AVES							
ANSERIFORMES	3	9	2	1	15	3	18
APODIFORMES	6	15	5	8	34	2	36
APTERYGIFORMES	0	1	0	0	1	0	1
CAPRIMULGIFORMES	2	0	1	4	7	2	9
CHARADRIIFORMES	3	6	9	8	26	5	31
CICONIIFORMES	7	4	2	3	16	2	18
COLUMBIFORMES CORACIIFORMES	7 0	16 5	14 10	12 4	49 19	0	49 20
CUCULIFORMES	2	3	2	3	10	1	11
FALCONIFORMES	7	8	13	2	30	4	34
GALLIFORMES	16	20	21	4	61	3	64
GRUIFORMES	10	13	8	14	45	7	52
PASSERIFORMES	85	107	136	87	415	63	478
PELECANIFORMES	1	2	5	1	9	1	10
PICIFORMES	5	2	1	3	11	3	14
PODICIPEDIFORMES	3	0	0	0	3	1	4
PROCELLARIIFORMES	11	5	2	5	23	1	24
PSITTACIFORMES	18	23	19	6	66	5	71
SPHENISCIFORMES	0	1	0	0	1	1	2
STRIGIFORMES	1	0	7	7	15	2	17
TINAMIFORMES	1 0	1	0	3	5	1	6
TROGONIFORMES Subtotal	188	0 241	0 257	1 176	1 862	0 108	1 970
			-0,		000		0.0
CROCODYLIA	7	-	0	0	40	^	10
CROCODYLIA	7	5	0	0	12	0	12
RHYNCHOCEPHALIA SAURIA	1 18	0 47	1 45	0 18	120	0 21	2 149
SERPENTES	10	15	45 24	18	128 60	11	71
TESTUDINES	11	21	9	14	55	27	82
Subtotal	47	88	79	43	257	59	316
Class: AMPHIBIA ANURA	27	26	36	10	99	31	130
CAUDATA	5	6	19	4	34	5	39
Subtotal	32	32	55	14	133	36	169

Table 1. Threatened species: totals for higher taxa by status category (continued)

	<b>E</b> 1.	<b></b>	R	1.05	UBTOTAL!	*K*	TOTAL
	to .						
Class: CEPHALASPIDON PETROMYZONTIFORMES		1	2	0	3	2	5
Subtotal	0	1	2	0	3	2	5
Class: ELASMOBRANCH	HI						
ORECTOLOBIFORMES	0	0	0	1	1	2	3
Subtotal	0	0	0	1	1	2	3
Class: ACTINOPTERYGII							
ACIPENSERIFORMES	3	5	1	0	9	0	9
ATHERINIFORMES	5	25	41	4	75	6	81
BELONIFORMES	5	6	3	0	14	0	14
CHARACIFORMES	1	5	0	0	6	0	6
CLUPEIFORMES	0	0	1	0	1	1	2
CYPRINIFORMES	44	64	66	17	191	5	196
CYPRINODONTIFORMES	34	24	12	10	80	3	83
GASTEROSTEIFORMES	2	2	0	0	4	0	4
OPHIDIIFORMES	2	0	0	1	3	0	3
OSTEOGLOSSIFORMES	0	0	2	0	2	2	4
PERCIFORMES	25	58	88	261	432	16	448
PERCOPSIFORMES	1	2	0	0	3	0	3
SALMONIFORMES	17	14	12	2	45	2	47
SCORPAENIFORMES	1	2	5	0	8	0	8
SILURIFORMES	16	16	13	6	51	5	56
SYNBRANCHIFORMES	2	0	0 .	0	2	1	3
SYNGNATHIFORMES	0	1	0	2	3	o o	3
Subtotal	158	224	244	303	929	41	970
CIass: SARCOPTERYGII COELACANTHIFORMES	0	1	0	0	1	0	1
Subtotal	0	1	0	0	1	0	1
Class: ANTHOZOA							
ACTINIARIA	1	1	0	0	2	0	2
GORGONACEA	o o	Ö	0	Ö	0	1	1
Subtotal	1	1	0	0	2	1	3
Class: TURBELLARIA							
TRICLADIDA	2	0	1	0	3	0	3
Subtotal	2	0	1	0	3	0	3
Class: ENOPLA							
HOPLONEMERTEA	2	0	4	0	6	0	6
Subtotal	2	0	4	0	6	0	6
Class: GASTROPODA							
ARCHAEOGASTROPODA	0	12	-	4	10		
BASOMMATOPHORA	5	12	5	1	18	0	18
MESOGASTROPODA	53	174	0 16	20	27	0	27
STYLOMMATOPHORA	206	224	117	176	419	2	421
				56	603	27	630
Subtotal	264	412	138	253	1067	29	1096
Class: BIVALVIA							
UNIONOIDA	45	8	1	E4	400		
VENEROIDA	0	2	0	54	108	1	109
Subtotal				5	7	3	10
Subtotal	45	10	1	59	115	4	119

Table 1. Threatened species: totals for higher taxa by status category (continued)

	E	V	R	I SU	BTOTAL <sup>1</sup>	к	TOTAL
Class: POLYCHAETA				0	0	4	
EUNICIDA Subtotal	0	0	0	0	0	1	1 1
Olean LUDUDUEA							
Class: HIRUDINEA ARHYNCHOBDELLAE	0	0	0	1	1	0	1
Subtotal	0	0	0	1	1	0	1
Class: OLIGOCHAETA							
HAPLOTAXIDA	2	145	1	0	148	0	148
Subtotal	2	145	1	0	148	0	148
Class: MEROSTOMATA	^	•	0	0	0	,	4
XIPHOSURA Subtotal	0	0	0	0	0	4	4
	Ü	Ü	Ü	Ü	ŭ	•	
Class: ARACHNIDA ARANEAE	2	1	4	7	14	1	15
OPILIONES	0	i	Ō	Ó	1	Ö	1
PSEUDOSCORPIONIDA	1	0	0	1	2	0	2
Subtotal	3	2	4	8	17	1	18
Class: CRUSTACEA							
AMPHIPODA	1	0	0	49	50	0	50
ANASPIDACEA ANOSTRACA	0	1	0	2 3	3 3	2 5	5 8
CALANOIDA	0	ő	3	Ő	3	0	3
CLADOCERA	0	0	4	0	4	0	4
DECAPODA	7 0	4 0	16 0	17	44	4	48
HARPACTICOIDA ISOPODA	2	1	0 5	0 9	0 17	<b>8</b> 9	8 26
MYODOCOPINA	0	o	ō	ő	0	3	3
PODOCOPINA	0	0	0	0	0	1	1
THORACICA	0	0	0	2	2	0	2
Subtotal	10	6	28	82	126	32	158
Class: INSECTA			•				
ANOPLURA BLATTARIA	1 0	0	0	0 1	1	0	1
COLEOPTERA	190	24	8	154	376	2	378
COLLEMBOLA	0	0	0	6	6	0	6
DERMAPTERA	1	0	0	0	1	0	1
DIPTERA EPHEMEROPTERA	3 0	0	0 1	15 13	18 14	0	18 14
GRYLLOBLATTARIA	0	1	Ö	0	1	0	1
HEMIPTERA	1	0	0	25	26	0	26
HOMOPTERA	0	3	0	18	21	0	21
HYMENOPTERA LEPIDOPTERA	11	5	0	70 70	86	3	89
MANTODEA	25 1	61 0	158 0	79 0	323 1	19 0	342 1
MECOPTERA	o O	Ö	0	1	1	ő	1
NEUROPTERA	0	0	0	7	7	0	7
ODONATA ORTHOPTERA	15 3	17 8	46 26	50 35	128	10	138
PLECOPTERA	1	0	26	35 12	72 15	0	72 15
THYSANURA	Ö	0	0	2	2	0	2
TRICHOPTERA	0	C	0	49	49	0	49

Table 1. Threatened species: totals for higher taxa by status category (continued)

	E	AT SOUT KY	KOTOTAL				
ZORAPTERA	0	0	0	1	1	0	1
Subtotal	252	119	241	538	1150	34	1184
Class: ONYCHOPHOR	A						
ONYCHOPHORA	1	7	4	0	12	0	12
Subtotal	1	7	4	0	12	0	12
Class: ECHINOIDEA							
ECHINOIDA	0	0	0	0	0	1	1
Subtotal	0	0	0	0	0	1	1
TOTAL	1184	1488	1148	1546	5366	563	5929

<sup>&</sup>lt;sup>1</sup> Subtotal includes species categorised E, V, R or I; these are known to be threatened species. Category K comprises those suspected to be threatened.

This table does not include beetles of the genera *Itodacnus* and *Oodemas* in List 3 from the Hawaiian Islands for which we do have an estimate of species number.

We have used the figure of 250 haplochromine and 2 tilapiine cichlid fishes in Lake Victoria given in the 1990 Red List, although recent estimates suggest >300 species are present of which some 200 may be critically threatened.

Classes are in the same taxonomic sequence as List 1; Order within Classes are in alphabetical sequence.

Table 2. Threatened species: country totals by taxonomic group

	MAMMALS	BIRDS	REPTILES	AMPHIBIAN	SFISHES	INVERTS
AFRICA						
Algeria	14	9	0	0	0	5
Angola	21	13	5	0	0	3
Ascension	0	1	1	0	0	0
Benin	8	1	2	0	0	1
Botswana	8	6	0	0	0	0
Burkina Faso	9	1	1	0	0	0
Burundi	8	6	0	0	0	1
Cameroon	34	15	3	1	0	3
Cape Verde	1	3	3	0	0	0
Central African Republic	13	2	1	0	0	1
Chad	16	3	1	C	0	0
Comoros Congo	3	6	2	0	0	4
Côte d'Ivoire	17 23	2 9	2 4	0	0	3
Djibouti	6	3	2	0	0	1
Egypt	11	11	4	0	0	10
Equatorial Guinea	16	2	3	1	0	3
Eritrea	3	0	0	o o	0	0
Ethiopia	32	16	2	ō	0	2
Gabon	22	5	3	Ö	Ö	2
Gambia	6	0	1	0	0	0
Ghana	17	9	4	0	0	1
Guinea	18	4	3	1	0	1
Guinea-Bissau	6	1	3	0	0	1
Kenya <sup>1</sup>	23	16	4	0	2+	4
Lesotho <sup>2</sup>	2	5	1	2	0	1+
Liberia	19	9	3	1	0	2
Libya	11	4	2	0	0	0
Madagascar	46	27	13	0	0	19
Malawi	7	7	0	0	0	2
Mali	14	5	1	0	0	0
Mauritania	15	3	3	0	0	0
Mauritius	3	8 2	6	0	0	20
Mayotte Morocco	0 12	14	2	0	0	0
Mozambique	10	12	1 6	0	0	6 4
Namibia	13	8	4	1	0	0
Niger	16	1	Õ	0	0	1
Nigeria	28	9	3	0	0	1
Rwanda	20	6	0	0	0	2
Réunion	0	2	2	0	0	22
Saint Helena	0	6	0	Ö	ő	5
São Tomé and Príncipe	2	7	2	0	Ō	4
Senegal	16	5	6	0	Ō	ó
Seychelles	1	7	4	4	0	6
Sierra Leone	16	7	3	0	0	3
Somalia	20	7	2	0	0	1
South Africa <sup>2</sup>	31	13	37	16	0	178+
Sudan	23	9	2	0	0	2
Swaziland	4	4	2	1	0	0
Tanzania <sup>1</sup>	25	23	5	0	2+	11
Togo	12	1	3	0	0	1
Tunisia	7	9	1	0	0	3
Uganda <sup>1</sup>	22	13	0	0	2+	2
Western Sahara Zaire	5	3	2	0	0	0
Zarre Zambia	45 8	23	3	0	0	5
Zimbabwe	10	8 5	1 0	0	0	1
Ziiiibabwe	10	3	U	U	U	2

Table 2. Threatened species: country totals by taxonomic group (continued)

	MAMMALS	BIRDS	REPTILES	AMPHIBIANS	FISHES	INVERTS
ANTARCTICA						
Falkland Islands French Southern and Antarctic Territories	5 3	0 2	0	0	0	0
ASIA						
Afghanistan	12	15	1	1	0	2
Armenia	2	8	2	0	0	16
Azerbaijan	3	12	1	0	0	15
Bahrain	3	2	0	0	0	0
Bangladesh	24	24	18	0	0	0
Bhutan	24	12	1	0	0	4
British Indian Ocean Territory	0	0	2	0	0	2
Brunei Cambodia	17 28	13 18	4 9	0	0	1
China	28 59	88	12	1	0	17
Cyprus	2	5	3	Ö	0	0
Georgia	4	10	6	1	0	18
Hong Kong	2	10	1	0	0	0
India	53	69	23	3	0	22
Indonesia	77	123	19	0	0	69
Iran	15	19	7	0	0	9
Iraq	8	14	0	0	0	6
Israel	11	10	4	0	0	5
Japan	20	30	10	11	0	70
Jordan	9	3	0	0	0	4
Kazakhstan Korea D.P.R.	12 10	17 20	0	0	0	19
Korea Republic	9	20	0	0	0	0
Kuwait	5	3.	2	0 .	0	0
Kyrgyzstan	6	7	0	0	0	3
Laos	33	23	5	0	0	0
Lebanon	5	4	1	ō	Ö	3
Malaysia	32	36	15	0	0	21
Maldives	0	1	2	0	0	2
Mongolia	10	15	0	0	0	6
Myanmar	29	40	18	0	0	9
Nepal	28	24	9	0	0	2
Oman Pakistan	10	5	4	0	0	2
Papua New Guinea	17 38	25 22	8	0	0	1
Philippines	31	43	8 8	0 2	0	26
Qatar	3	2	2	0	0	31 0
Russia	23	42	3	0	0	40
Saudi Arabia	10	8	2	o	0	8
Singapore	7	5	1	0	Ö	7
Sri Lanka	9	8	9	0	0	6
Syria	4	8	1	0	0	6
Taiwan	9	13	2	0	0	8
Tajikistan	7	12	1	0	0	3
Thailand	33	38	21	4	0	9
Turkey	5	20	12	5	0	19
Turkmenistan Ukraine	12	15	1	0	0	5
United Arab Emirates	5	9	1	0	0	33
Uzbekistan	4 9	3	2	0	0	0
Viet Nam	9 35	14 40	1	0	0	3
Yemen	7	8	12 2	1 0	0 0	7 1

Table 2. Threatened species: country totals by taxonomic group (continued)

	MAMMALS	BIRDS	REPTILES	AMPHIBIAN	IS FISHES	INVERTS
former USSR	0	0	0	0	0	1
EUROPE				ŭ	· ·	·
Albania	2	10	2			
Andorra	3 1	10 0	3 0	0 0	0	8 2
Austria	3	8	0	0	0	67
Belarus	5	4	0	0	ő	22
Belgium	3	2	0	Ö	Ö	33
Bulgaria	5	12	2	0	0	27
Czech Republic	3	0	0	0	0	37
former Czechoslovakia	0	6	0	0	0	1
Denmark	2	4	0	0	0	21
Estonia	5	2	0	0	0	19
Finland	4	3	0	0	0	27
France	6	8	2	2	0	97
Germany	3	5	0	0	0	63
Gibraltar	0	3	0	0	0	2
Greece	5 2	13	5	1	0	19
Hungary Iceland	2	11	0	0	0	42 1
Ireland	1	1	0	0	0	7
Italy	4	10	4	9	0	47
Latvia	4	6	ó	0	0	22
Liechtenstein	1	2	0	0	0	7
Lithuania	4	4	0	0	0	24
Luxembourg	2	2	0	0	0	10
Malta	2	1	1	0	0	6
Moldova	1	8	0	0	0	20
Netherlands	3	3	0	0	0	24
Norway Poland	6 5	3 6	0	0	0	21 41
Portugal	7	11	2	1	0	85
Romania	4	13	1	Ö	0	34
Slovakia	3	0	Ö	Ö	ő	39
Slovenia	3	0	0	2	0	0
Spain	8	17	6	3	0	86
Sweden	4	4	0	0	0	35
Switzerland	2	4	0	1	0	50
United Kingdom	2	4	0	0	0	21
former Yugoslavia	4	13	2	1	0	37
NORTH AND CENTRAL AMERICA	A					
Anguilla	0	0	5	0	0	0
Antigua and Barbuda	0	1	5	0	0	0
Aruba	1	1	2	0	0	1
Bahamas	3	3	6	0	0	1
Barbados	0	1	2	0	0	0
Belize	7	2	5	0	0	1
Bermuda British Vissin Islands	0	2	0 5	0 1	0	1
British Virgin Islands Canada	0 10	2 4	0	0	0	0 13
Canada Cayman Islands	0	1	2	0	0	0
Costa Rica	12	7	7	1	0	10
Cuba	11	14	8	0	0	5
Dominica	0	2	4	0	0	0
Dominican Republic	4	9	11	1	Ö	8
El Salvador	4	0	6	0	0	1

Table 2. Threatened species: country totals by taxonomic group (continued)

	MAMMALS	BIRDS	REPTILES	AMPHIBIAN	S FISHES	INVERTS
Greenland	5	1	0	0	0	0
Grenada	0	1	4	0	0	0
Guadeloupe	1	0	7	0	0	0
Guatemala	8	5	9	0	0	5
Haiti	4	9	7	2	0	6
Honduras	6	3	7	0	0	2
Jamaica	3	4	10	4	0	8
Martinique	0	2	5	0	0	0
Mexico	30	28	20	3	0	42
Montserrat	0	0	5	0	0	0
Netherlands Antilles	1	1	6	0	0	0
Nicaragua	8	2	7	0	0	0
Panama	15	6	7	0	0	2
Puerto Rico	1	6	9	3	0	2
Saint Kitts-Nevis	0	0	5	0	0	0
Saint Lucia	0	3	6	0	0	0
Saint Vincent	0	1	4	0	0	0
Trinidad and Tobago	2	2	5	0	0	1
Turks and Caicos Islands	0	3	4	0	0	0
USA	29	14	26	18	174	701
USA: Hawaiian Islands <sup>3</sup>	0	28	2	0	0	653
Virgin Islands of the United States	0	2	4	0	0	0
OCEANIA						
American Samoa	2	1	2	0	0	8
Australia	49	36	43	37	0	403
Christmas Island	0	3	2	Ò	0	0
Cocos (Keeling) Islands	0	1	0	0	0	1
Cook Islands	0	5	2	0	0	1
Federated States of Micronesia	5	3	2	0	0	60
Fiji	4	5	6	1	0	6
French Polynesia	0	19	2	0	0	14
Guam	3	4	2	0	0	57
Kiribati	0	1	2	0	0	4
Line Islands	0	0	1	0	0	0
Marshall Islands	0	1	2	0	0	6
Nauru	0	1	0	0	0	0
New Caledonia	4	5	4	0	0	10
New Zealand	5	24	18	3	0	46
Niue Northern Marianas	0	0	1	0	0	0
Palau Palau	2	3	2	0	0	17
	3	2	3	0	0	62
Papau New Guinea Pitcairn Islands	0	0	0	0	0	0
	0	2	0	0	0	3
Solomon Islands Tokelau	6	15	6	0	0	12
	0	0	2	0	0	2
Tonga	0	2	3	0	0	5
Tuvalu USA Pacific Islands	0	0	2	0	0	6
Vanuatu	0	0	1	0	0	1
Western Samoa	4 2	2	3 2	0	0	6
SOUTH AMERICA						
Argentina	33	37	8	5	0	0
					0	2
Bolivia	2/	22	5	4	^	
Brazil	27 54	22 100	5 16	1 8	0	2 17

Table 2. Threatened species: country totals by taxonomic group (continued)

	MAMMALS	BIRDS	REPTILES	AMPHIBIANS	FISHES	INVERTS
Colombia	30	58	45	0	0	
			15	0	0	0
Ecuador	27	48	12	0	0	30
French Guiana	9	2	6	0	0	3
Guyana	11	2	7	0	0	1
Paraguay	12	26	5	0	0	0
Peru	38	65	9	1	0	4
Suriname	9	2	5	0	0	1
Uruguay	9	11	1	0	0	1
Venezuela	18	20	12	0	0	1

<sup>&</sup>lt;sup>1</sup> The figure for fishes does not include 252 cichlids in Lake Victoria for which we have insufficient data on the range of individual species. These species are included in Table 4. The total of 250 haplochromine and 2 tilapiine cichlid fishes in Lake Victoria is given in the 1990 Red List, but recent estimates suggest >300 haplochromine species are present of which some 200 may be critically threatened.

Widespread marine cetaceans lacking full country-specific range data are excluded. All the tables cover taxa of species rank only; subspecies are excluded. The tables cover species that have been assigned to one of the standard IUCN-SSC status categories; the Commercially Threatened taxa (CT) set out in List 5 are excluded.

Tables 2, 3 and 6 for simplicity use the same major geopolitical units as in the distribution entries in the species lists. This results in loss of geographical resolution of some biological interest; in particular it should be noted that island territories of mainland countries are in most cases included with their parent countries. For example, the Canary Islands, which feature prominently in the mollusc lists, are included with Spain in the tables. However, the distribution entries in the species lists will indicate "Spain: Canary Islands", so the relevant information can be retrieved. Tristan da Cunha is included with St Helena. The Hawaiian Islands have a separate entry. All unconfirmed occurrences (indicated in the lists by "?" after the country name) are counted in the tables.

<sup>&</sup>lt;sup>2</sup> The figure for invertebrates does not include 62 earthworms of the genera *Microscolex* and *Udeina* in List 3 which occur in Lesotho and South Africa but for which we have insufficient data on the range of individual species.

<sup>&</sup>lt;sup>3</sup> The invertebrate total does not include species of the insect genera *Itodachus* and *Oodemus* for which we have been unable to determine the number of recognised species.

Table 3. Threatened species: country totals by status category

AFRICA  Algeria 9 8 5 3 25 Angola 5 12 9 7 33 Ascension 1 0 1 0 2 Benin 3 6 2 0 11 Botswana 2 4 6 1 13 Burkina Faso 2 5 1 0 8 Burundi 1 6 3 2 12 Cameroon 9 27 19 4 59 Cape Verde 3 1 1 0 0 5 Central African Republic 2 7 3 0 12 Chad 6 8 1 1 1 6 Comoros 4 3 6 1 1 1 6 Congo 3 11 4 0 18 Côte d'Ivoire 8 16 4 2 30 Djibouti 3 3 3 2 0 8 Egypt 4 12 5 10 31 Equatorial Guinea 4 12 3 2 21 Erifrea 0 3 0 4 0 0 3 Ethiopia 11 10 11 4 36 Gabon 5 10 3 1 19 Gambia 0 4 0 0 4 Ghana 5 13 7 0 25 Guinea 5 14 2 0 21	4 9 0 1 1 3 3 17 2 5	29 42 2 12 14
Angola 5 12 9 7 33 Ascension 1 0 1 0 2 Benin 3 6 2 0 11 Botswana 2 4 6 1 13 Burkina Faso 2 5 1 0 8 Burundi 1 6 3 2 12 Cameroon 9 27 19 4 59 Cape Verde 3 1 1 0 0 5 Central African Republic 2 7 3 0 12 Chad 6 8 1 1 1 16 Comoros 4 3 6 1 14 Congo 3 11 4 0 18 Cote d'Ivoire 8 16 4 2 30 Djibouti 3 3 2 0 8 Egypt 4 12 5 10 31 Equatorial Guinea 4 12 3 2 21 Eritrea 0 3 0 0 3 Ethiopia 11 10 11 4 36 Gabon 5 10 3 1 19 Gambia 0 4 0 0 4 Ghana 5 13 7 0 25	9 0 1 1 3 3 17 2	42 2 12 14 11
Ascension 1 0 1 0 2 Benin 3 6 2 0 11 Botswana 2 4 6 1 13 Burkina Faso 2 5 1 0 8 Burundi 1 6 3 2 12 Cameroon 9 27 19 4 59 Cape Verde 3 1 1 0 0 5 Central African Republic 2 7 3 0 12 Chad 6 8 1 1 1 16 Comoros 4 3 6 1 14 Congo 3 11 4 0 18 Cote d'Ivoire 8 16 4 2 30 Djibouti 3 3 3 2 0 8 Egypt 4 12 5 10 31 Equatorial Guinea 4 12 3 2 21 Eritrea 0 3 0 0 3 Ethiopia 11 10 11 4 36 Gabon 5 10 3 1 19 Gambia 0 4 0 0 4 Ghana 5 13 7 0 25	0 1 1 3 3 17 2	2 12 14 11
Benin         3         6         2         0         11           Botswana         2         4         6         1         13           Burkina Faso         2         5         1         0         8           Burundi         1         6         3         2         12           Cameroon         9         27         19         4         59           Cape Verde         3         1         1         0         5           Central African Republic         2         7         3         0         12           Chad         6         8         1         1         16           Comoros         4         3         6         1         14           Congo         3         11         4         0         18           Cóte d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea <td< td=""><td>1 1 3 3 17 2</td><td>12 14 11</td></td<>	1 1 3 3 17 2	12 14 11
Botswana         2         4         6         1         13           Burkina Faso         2         5         1         0         8           Burundi         1         6         3         2         12           Cameroon         9         27         19         4         59           Cape Verde         3         1         1         0         5           Central African Republic         2         7         3         0         12           Chad         6         8         1         1         16           Comoros         4         3         6         1         14           Congo         3         11         4         0         18           Cote d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         <	1 3 3 17 2	12 14 11
Botswana         2         4         6         1         13           Burkina Faso         2         5         1         0         8           Burundi         1         6         3         2         12           Cameroon         9         27         19         4         59           Cape Verde         3         1         1         0         5           Central African Republic         2         7         3         0         12           Chad         6         8         1         1         16           Comoros         4         3         6         1         14           Congo         3         11         4         0         18           Cote d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         <	1 3 3 17 2	14 11
Burkina Faso         2         5         1         0         8           Burundi         1         6         3         2         12           Cameroon         9         27         19         4         59           Cape Verde         3         1         1         0         5           Central African Republic         2         7         3         0         12           Chad         6         8         1         1         16           Comoros         4         3         6         1         14           Congo         3         11         4         0         18           Côte d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Erritrea         0         3         0         0         3           Ethiopia         11         10         11         4         36           Gabon	3 3 17 2	11
Burundi 1 6 3 2 12 Cameroon 9 27 19 4 59 Cape Verde 3 1 1 1 0 5 Central African Republic 2 7 3 0 12 Chad 6 8 1 1 1 16 Comoros 4 3 6 1 14 Congo 3 11 4 0 18 Côte d'Ivoire 8 16 4 2 30 Djibouti 3 3 2 0 8 Egypt 4 12 5 10 31 Equatorial Guinea 4 12 3 2 21 Eritrea 0 3 0 0 3 Ethiopia 11 10 11 4 36 Gabon 5 10 3 1 19 Gambia 0 4 0 0 4 Ghana 5 13 7 0 25	3 17 2	
Cameroon         9         27         19         4         59           Cape Verde         3         1         1         0         5           Central African Republic         2         7         3         0         12           Chad         6         8         1         1         16           Comoros         4         3         6         1         14           Congo         3         11         4         0         18           Côte d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         11         10         11         4         36           Gabon         5         10         3         1         19           Gambia         0         4         0         0         4           Gambia         5 </td <td>17 2</td> <td>15</td>	17 2	15
Cape Verde         3         1         1         0         5           Central African Republic         2         7         3         0         12           Chad         6         8         1         1         16           Comoros         4         3         6         1         14           Congo         3         11         4         0         18           Côte d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         11         10         11         4         36           Gabon         5         10         3         1         19           Gambia         0         4         0         0         4           Ghana         5         13         7         0         25	2	76
Central African Republic         2         7         3         0         12           Chad         6         8         1         1         16           Comoros         4         3         6         1         14           Congo         3         11         4         0         18           Côte d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         11         10         11         4         36           Gabon         5         10         3         1         19           Gambia         0         4         0         0         4           Ghana         5         13         7         0         25		7
Chad 6 8 1 1 1 16 Comoros 4 3 6 1 14 Congo 3 11 4 0 18 Côte d'Ivoire 8 16 4 2 30 Djibouti 3 3 2 0 8 Egypt 4 12 5 10 31 Equatorial Guinea 4 12 3 2 21 Eritrea 0 3 0 0 3 Ethiopia 11 10 11 4 36 Gabon 5 10 3 1 19 Gambia 0 4 0 0 4 Ghana 5 13 7 0 25	0	17
Comoros         4         3         6         1         14           Congo         3         11         4         0         18           Côte d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         11         10         11         4         36           Gabon         5         10         3         1         19           Gambia         0         4         0         0         4           Ghana         5         13         7         0         25	4	20
Congo         3         11         4         0         18           Côte d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         11         10         11         4         36           Gabon         5         10         3         1         19           Gambia         0         4         0         0         4           Ghana         5         13         7         0         25	2	16
Côte d'Ivoire         8         16         4         2         30           Djibouti         3         3         2         0         8           Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         11         10         11         4         36           Gabon         5         10         3         1         19           Gambia         0         4         0         0         4           Ghana         5         13         7         0         25	6	24
Djibouti     3     3     2     0     8       Egypt     4     12     5     10     31       Equatorial Guinea     4     12     3     2     21       Eritrea     0     3     0     0     3       Ethiopia     11     10     11     4     36       Gabon     5     10     3     1     19       Gambia     0     4     0     0     4       Ghana     5     13     7     0     25	8	38
Egypt         4         12         5         10         31           Equatorial Guinea         4         12         3         2         21           Eritrea         0         3         0         0         3           Ethiopia         11         10         11         4         36           Gabon         5         10         3         1         19           Gambia         0         4         0         0         4           Ghana         5         13         7         0         25	3	
Equatorial Guinea       4       12       3       2       21         Eritrea       0       3       0       0       3         Ethiopia       11       10       11       4       36         Gabon       5       10       3       1       19         Gambia       0       4       0       0       4         Ghana       5       13       7       0       25		11
Eritrea     0     3     0     0     3       Ethiopia     11     10     11     4     36       Gabon     5     10     3     1     19       Gambia     0     4     0     0     4       Ghana     5     13     7     0     25	6	37
Ethiopia 11 10 11 4 36 Gabon 5 10 3 1 19 Gambia 0 4 0 0 4 Ghana 5 13 7 0 25	4	25
Gabon     5     10     3     1     19       Gambia     0     4     0     0     4       Ghana     5     13     7     0     25	0	3
Gambia 0 4 0 0 4 Ghana 5 13 7 0 25	16	52
Ghana 5 13 7 0 25	13	32
0	3	3
	6	31
Outres Piles	6	27
Guinea-Bissau 2 6 1 1 10	1	11
Kenya <sup>1</sup> 9 13 9 4+ 35+ Lesotho <sup>2</sup> 1 1+ 8 1 11+	12	47+
	1	12+
Liberia 6 15 2 3 26	8	34
Libya 3 7 3 1 14	3	17
Madagascar 21 20 34 18 93	34	127
Malawi 3 4 5 1 13	3	16
Mali 4 9 2 1 16	4	20
Mauritania 6 7 2 1 16	5	21
Mauritius 18 6 7 5 36	1	37
Mayotte 2 0 1 0 3	1	4
Morocco 6 13 5 2 26	8	34
Mozambique 7 6 13 3 29	6	35
Namibia 5 8 12 1 26	5	31
Niger 4 5 2 1 12	6	18
Nigeria 9 16 9 0 34	7	41
Rwanda 2 10 8 1 21	7	28
Réunion 9 11 2 3 25	1	26
Saint Helena 3 1 6 1 11	ó	11
Sao Tomé and Príncipe 2 2 3 7 14	1	15
Senegal 5 12 1 0 18	9	27
Seychelles 8 0 11 1 20	2	22
Sierra Leone 5 14 3 2 24	5	29
Somalia 5 8 3 2 18	13	31
South Africa <sup>2</sup> 20 121+ 123 34 298+		
Sudan 7 10 6 3 26	13	311+
Swaziland 2 2 6 1 11	10	36
Tanzania <sup>1</sup> 8 18 21 2+ 49+	0	11
Togo	15	64+
Tunicia	4	17
Handa <sup>1</sup> 16	4	20
Western Sahara	10	
Zaire 5	10	37+
7ambia 2 5 50	1	10
7imhahwa 2 15	1 32	10 82
2 4 8 1 15	1	10

Table 3. Threatened species: country totals by status category (continued)

	Ess	40860465 <b>V</b> 7880	2462 <b>R</b> 335	O SU	RTOTAL TO See	200 <b>K</b> .83	TOTAL
		e yezhoù e reese 🖣 e ere z		10.000 00000 0.00101101100	DIOINE - O		TOTAL
ANTARCTICA							
Falkland Islands	0	1	0	0	1	4	5
French South'n Antarctic T	Terr.1	1	0	0	2	3	5
ASIA							
Afghanistan	4	13	7	0	24	7	31
Armenia	6	8	6	2	22	6	28
Azerbaijan Bahrain	6 0	9 2	9	2	26	5	31
Bangladesh	11	22	2 9	0 13	4 55	2 11	6
Bhutan	10	11	8	4	33	8	66 41
British Indian Ocean Terr.	2	0	ō	1	3	1	4
Brunei	5	10	7	4	26	11	37
Cambodia	15	19	8	6	48	13	61
China	34	49	46	33	162	32	194
Cyprus	2	5	3	0	10	0	10
Georgia Hong Kong	8	8 5	12 4	3 1	31 11	8 2	39
India	26	49	45	28	148	24	13 172
Indonesia	38	80	120	78	316	38	354
Iran	7	18	11	3	39	13	52
Iraq	2	9	12	1	24	6	30
Israel	5	12	6	2	25	5	30
Japan Jordan	42 3	42 8	47 3	11	142	9	151
Kazakhstan	10	18	10	1 3	15 41	1 8	16 49
Korea D.P.R.	5	13	4	4	26	4	30
Korea Republic	3	13	6	3	25	4	29
Kuwait	2	3	2	0	7	3	10
Kyrgyzstan	2	6	6	0	14	2	16
Laos Lebanon	14 2	16	14	10	54	11	65
Malaysia	14	6 23	4 20	1 27	13 84	0 26	13 110
Maldives	2	0	1	1	4	1	5
Mongolia	5	15	7	0	27	4	31
Myanmar	17	27	20	15	79	18	97
Nepai	16	20	6	12	54	9	63
Oman	3	7	6	1	17	6	23
Pakistan Papua New Guinea	9 14	21 40	8 60	4 17	42 131	9	51
Philippines	15	39	41	26	121	11 16	142 137
Qatar	2	1	1	0	4	3	7
Russia	23	38	19	12	92	20	112
Saudi Arabia	2	7	5	6	20	8	28
Singapore	2	5	1	4	12	9	31
Sri Lanka	10	25	7	2	44	7	51
Syria Taiwan	4 6	9 14	5 3	1 4	19 27	0 6	19
Tajikistan	3	10	7	0	20	3	33 23
Thailand	20	24	24	18	86	32	118
Turkey	14	17	19	18	68	11	79
Turkmenistan	2	15	9	0	26	8	34
Ukraine	14	17	6	5	42	9	51
United Arab Emirates Uzbekistan	2	3 13	2 7	0	7	2	9
Viet Nam	ა 19	13 25	18	17	23 79	4 20	27 99
Yemen	3	4	3	3	13	5	18

Table 3. Threatened species: country totals by status category (continued)

	E	٧	R	េទប	IBTOTAL <sup>1</sup>	К	TOTAL
former USSR	0	1	0	0	1	0	1
EUROPE							
Albania	5	9	8	1	23	2	25
Andorra	0	1	1	1	3	0	3
Austria	28	31	8	4	71	9	80
Belarus	9	12	1	4	26	5	31
Belgium	14	15	1	3	33	6	39
Bulgaria	9	21	8	1	39	8	47
Czech Republic	17	16	1	3	37	5	42
former Czechoslovakia	0	1	5	0	6	1	7
Denmark	8	10	2	4	24	4	28
Estonia	8	10	1	5	24	3	27
Finland	10	14	4	5	33	3	36
France	21	29	21	39	110	8	118
Germany	28	26	6	6	66	9	75
Gibraltar	0	0	3	1	4	1	5
Greece	15	20	15	3	53	7	60
Hungary	16	18	9	3	46	10	56
Iceland	1	2	0	0	3	2	5
Ireland	2	5	2	0	9	2	11 76
Italy	15	33	17 2	4 5	69 28	5	33
Latvia	8	13 2	2	0	8	2	10
Liechtenstein	•	12	1	5	28	5	33
Lithuania Luxembourg	10 5	6	1	1	13	1	14
Malta	3	3	3	0	9	1	10
Moldova	10	10	4	2	26	5	31
Netherlands	7	12	2	4	25	6	31
Norway	4	16	3	4	27	5	32
Poland	17	18	7	6	48	7	55
Portugal	25	33	41	9	108	9	117
Romania	14	21	8	2	45	10	55
Slovakia	13	21	3	1	38	6	44
Slovenia	0	5	0	0	5	0	5
Spain	29	43	38	14	124	12	136
Sweden	12	18	4	6	40	5	45
Switzerland	13	28	6	5	52	8	60
United Kingdom	5	14	3	1	23	6	29
former Yugoslavia	17	22	13	3	55	7	62
NORTH AND CENTRAL	AMERICA						
Anguilla	3	2	0	0	5	0	5
Antigua and Barbuda	4	2	0	o	6	0	6
Aruba	1	0	1	1	3	2	5
Bahamas	3	4	3	4	14	0	14
Barbados	1	1	0	1	3	0	3
Belize	2	9	0	1	12	3	15
Bermuda	2	1	0	0	3	0	3
British Virgin Islands	4	4	0	0	8	0	8
Canada	12	17	6	7	42	5	47
Cayman Islands	0	3	0	0	3	0	3
Costa Rica	8	11	2	11	32	5	37
Cuba	12	10	4	11	37	1	38
Dominica	4	1	1	0	6	0	6
Dominican Republic	5	9	6	8	28	5	33
El Salvador	5	3	0	1	9	2	11

Table 3. Threatened species: country totals by status category (continued)

	E	٧	R	ı sı	IBTOTAL1	К	TOTAL
Greenland	0	3	0	0	3	3	6
Grenada	4	1	0	0	5	0	5
Guadeloupe	3	4	0	1	8	0	8
Guatemala	4	12	0	7	23	4	27
Haiti	3	8	5	9	25	3	28
Honduras	5	9	0	2	16	2	18
Jamaica	6	8	5	8	27	2	29
Martinique	6	1	0	0	7	0	7
Mexico	63	78	34	27	202	20	222
Montserrat	3	1	0	1	5	0	5
Netherlands Antilles	3	3	0	0	6	2	8
Nicaragua	4	8	1	1	14	3	17
Panama Buarta Rica	6	13	2	4	25	5	30
Puerto Rico Saint Kitts-Nevis	8	5 2	3	4	20	1	21
Saint Lucia	6	2	0 1	0	5	0	5
Saint Vincent	3	0	2	0	9 5	0	9
Trinidad and Tobago	6	2	0	0	9	0 1	5 10
Turks and Caicos Islands	3	2	1	1	7	0	7
USA	146	129	108	549	932	30	962
USA: Hawaiian Islands <sup>3</sup>	270	7	7	160	444	1	445
Virgin Islands of the US	4	2	0	0	6	Ö	6
	·	_	Ü	ŭ	Ü	Ü	Ö
OCEANIA							
American Samoa	6	3	0	3	12	1	13
Australia	115	213	161	58	547	94	641
Christmas Island	1	4	0	0	5	0	5
Cocos (Keeling) Islands	0	2	0	0	2	0	2
Cook Islands	3	1	3	0	7	1	8
Fed. States of Micronesia	6	59	2	2	69	1	70
Fiji	6	7	1	5	19	3	22
French Polynesia	17	7	7	3	34	1	35
Guam	8	55	0	1	64	2	66
Kiribati	3	1	0	2	6	1	7
Line Islands	1	0	0	0	1	0	1
Marshall Islands Nauru	2	4 0	0	2	8	1	9
New Caledonia	4	6	0 2	0 10	1 22	0 1	1 23
New Zealand	16	50	19	9	94		_
Niue	1	0	0	0	94	8 0	102 1
Northern Marianas	5	14	1	2	22	2	24
Palau	2	61	2	3	68	2	70
Papau New Guinea	0	0	1	0	1	0	1
Pitcairn Islands	0	0	4	Ö	4	1	5
Solomon Islands	6	5	12	11	34	5	39
Tokelau	2	0	0	1	3	1	4
Tonga	2	4	0	2	8	2	10
Tuvalu	2	2	0	2	6	2	8
USA Pacific Islands	1	0	0	0	1	1	2
Vanuatu	2	5	2	4	13	2	15
Western Samoa	3	4	0	2	9	1	10
SOUTH AMERICA							
Argentina	10	39	4	11	64	22	86
Bolivia	8	24	2	10	44	14	58
Brazil	54	79	10	27	170	34	204
Chile	26	39	17	5	87	19	106

Table 3. Threatened species: country totals by status category (continued)

	ENT	a kant <b>y</b> ala	**************************************	istang (, SI	JBTOTAL'	COSK A	TOTAL
Colombia	24	39	5	21	89	17	106
Ecuador	56	31	6	10	103	14	117
French Guiana	5	8	0	1	14	6	20
Guyana	6	9	0	1	16	6	22
Paraguay	7	23	1	3	34	9	43
Peru	28	47	3	11	89	29	118
Suriname	5	7	0	1	13	4	17
Uruguay	1	7	0	6	14	8	22
Venezuela	15	23	0	3	41	10	51

<sup>&</sup>lt;sup>1</sup> The figures for Indeterminate category species in Kenya, Tanzania and Uganda do not include 252 cichlid fishes in Lake Victoria for which we have insufficient data on the range of individual species. These species are included in Table 4. The figure of 250 haplochromine and 2 tilapiine cichlid fishes in Lake Victoria was given in the 1990 Red List, but recent estimates suggest >300 species are present.

Widespread marine cetaceans lacking full country-specific range data are excluded. All the tables cover taxa of species rank only; subspecies are excluded. The tables cover species that have been assigned to one of the standard IUCN-SSC status categories; the Commercially Threatened taxa (CT) set out in List 5 are excluded.

Tables 2, 3 and 6 for simplicity use the same major geopolitical units as in the distribution entries in the species lists. This results in loss of geographical resolution of some biological interest; in particular it should be noted that island territories of mainland countries are in most cases included with their parent countries. For example, the Canary Islands, which feature prominently in the mollusc lists, are included with Spain in the tables. However, the distribution entries in the species lists will indicate "Spain: Canary Islands", so the relevant information can be retrieved. Tristan da Cunha is included with St Helena. The Hawaiian Islands have a separate entry. Unconfirmed occurrence of a species (indicated in the lists by "?" after the relevant country) are counted in the tables.

Birdlife International have assigned mixed categories to many birds. There are 21 E/Ex and 78 V/R species included in the tables; in Tables 2 and 3 E/Ex categories are counted as E and V/R as V.

<sup>&</sup>lt;sup>2</sup> The figures for Vulnerable category species in Lesotho and South Africa do not include 62 earthworms of the genera *Microscolex* and *Udeina* in List 3 for which we have insufficient data on the range of individual species.

<sup>&</sup>lt;sup>3</sup> The invertebrate total does not include species of the insect genera *Itodacnus* and *Oodemus* for which we have been unable to determine the number of recognised species.

Table 4. Threatened species: summary by group and status category

	E	v.	n e	1 8	UBTOTAL!	diek t	TOTAL
MAMMALS	177	199	89	68	533	208	741
BIRDS <sup>2</sup>	188	241	257	176	862	108	970
REPTILES AMPHIBIANS	47 32	88 32	79	43	257	59	316
FISHES <sup>3</sup>	158	226	55 246	14 304	133 934	36 45	169 979
INVERTEBRATES4	582	702	422	941	2647	107	2754
TOTAL	1184	1488	1148	1546	5366	563	5929

<sup>&</sup>lt;sup>1</sup> Subtotal includes species categorised E, V, R or I; these are known to be threatened species. Category K comprises those suspected to be threatened.

Table 5. Threatened species: totals by group in 1990 and 1994

	1990	1994
MAMMALS	535	741
BIRDS	1026	970
REPTILES	169	316
AMPHIBIANS	57	169
FISHES	713	979
INVERTEBRATES	1977	2754
TOTAL	4477	5929

The figures for 1990 (1990 Red List) and 1994 (this book) are not exactly comparable; 1990 figures exclude Ex species but include Ex? and include 182 Commercially Threatened (CT) invertebrates, 1994 figures exclude all these.

<sup>&</sup>lt;sup>2</sup> BirdLife International have given mixed categories to many birds. In Tables 2 and 3 the 21 E/Ex species are treated as E, and 78 V/R as V.

<sup>&</sup>lt;sup>3</sup> Includes 252 species of Lake Victoria cichlids in List 3 with category I. The figure of 250 haplochromine and 2 tilapiine cichlid fishes in Lake Victoria was given in the 1990 Red List, but recent estimates suggest >300 species are present.

<sup>&</sup>lt;sup>4</sup> Includes 160 category E insects, 143 category V earthworms and 78 category I insects in List 3.

Table 6. Extinct species: country totals by group

AFRICA  Algeria		MAMMALS	BIRDS	REPTILES	AMPHIBIAN	SFISHES	INVERTS
Cape Verde	AFRICA						
Cape Verde	Alaaria	1	0	0	n	0	0
Madagascar	Capa Verde						
Macingascar							
Maurilus							
Mayotte							
Reunion							
Saint Helena	•						
Seychelles							
South Africa							
Tanzania 1 0 0 0 0 0 0 0 0 7 7000 1 0 0 7000 1 0 0 0 0							
Togo							
ANTARCTICA  Falkland Islands  1 0 0 0 0 0 0  ASIA  China 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0							
Falkland Islands	Togo	•	U	U	U	Ü	v
China	ANTARCTICA						
China	Falkland Islands	1	0	0	0	0	0
India	ASIA						
India	China	0	n	0	0	1	0
Indonesia							
Israel							
Japan							
Myanmar							
Nepal							
Papua New Guinea							
Philippines							
Russia		3	0	0	0		
Thailand		1	2	0	0		
North America   1	Thailand	1	0	0	0	0	
Austria  Denmark  0 1 0 0 0 0 0 0 0  Prance 1 0 0 0 0 0 0 0  Germany 1 0 0 0 0 0 0  Italy 1 0 0 0 0 0 0 0  Italy 1 0 0 0 0 0 0 1  Portugal Spain 0 1 0 0 0 0 0 1  United Kingdom 0 2 0 0 0 0 0 0 0  United Kingdom 0 2 0 0 0 0 0 0 0  Vugoslavia   NORTH AND CENTRAL AMERICA  Bahamas 1 1 0 0 0 0 0 0  Barbados 1 0 0 0 0 0 0 0 0  Canada 0 2 0 0 0 0 0  Cayman Islands 3 1 0 0 0 0 0  Cuba 5 1 0 0 0 0 0  Dominican Republic 7 0 0 0 0 0 0  Greenland 0 1 0 0 0 0  Guadeloupe 1 0 1 0 0 0 0  Guadeloupe 1 0 1 0 0 0 0  Haiti 8 0 0 0 0 0 0  Lenzies  Lenzies	Viet Nam	1					
Denmark	EUROPE						
Denmark	Austria	0	0	0	0	0	5
France							
Commany	France		0				
Iceland	Germany	1	0	0			
Italy	Iceland	0	1	0	0		
Portugal   Spain   O	Italy	1	0	0	0		
United Kingdom Yugoslavia  0 0 0 0 0 0 0 0 0  NORTH AND CENTRAL AMERICA  Bahamas 1 1 1 0 0 0 0 0 0  Barbados 1 0 0 0 0 0 0 0  Canada 0 2 0 0 0 2 0  Cayman Islands 3 1 0 0 0 0 0 0  Cuba 5 1 0 0 0 0 0 0  Dominican Republic 7 0 0 0 0 0 0  Greenland 0 1 0 0 0 0 0  Greenland 0 1 0 0 0 0 0  Guadeloupe 1 0 1 0 0 0 0  Guatemala 0 1 0 0 0 0 0  Haiti 8 0 0 0 0 0 0  Incomparison	Portugal	0	0	0	0	0	13
Yugoslavia         0         0         0         0         0         1           NORTH AND CENTRAL AMERICA           Bahamas         1         1         0	Spain	0	1	0	0	0	0
Vugoslavia         0         0         0         0         0         1           NORTH AND CENTRAL AMERICA           Bahamas         1         1         0	United Kingdom	0	2	0	0	0	0
Bahamas         1         1         0         0         0         0           Barbados         1         0         0         0         0         0         0           Canada         0         2         0         0         2         0           Cayman Islands         3         1         0         0         0         0           Cuba         5         1         0         0         0         0         0           Cuba         7         0         0         0         0         0         0         0         0         0           Cuba         7         0	Yugoslavia	0	0	0	0	0	
Barbados 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	NORTH AND CENTRAL AMERICA						
Barbados         1         0         0         0         0         0           Canada         0         2         0         0         2         0           Cayman Islands         3         1         0         0         0         0           Cuba         5         1         0         0         0         0         0           Dominican Republic         7         0         0         0         0         0         0         0           Greenland         0         1         0         0         0         0         0         0           Guadeloupe         1         0         1         0         0         0         0         0           Guatemala         0         1         0         0         0         0         0         0           Haiti         8         0         0         0         0         0         0         0	Bahamas	1	1	0	0	0	0
Canada         0         2         0         0         2         0           Cayman Islands         3         1         0         0         0         0           Cuba         5         1         0         0         0         0         0           Dominican Republic         7         0         0         0         0         0         0         0           Greenland         0         1         0         0         0         0         0         0         0         0           Guadeloupe         1         0         1         0	Barbados						
Cayman Islands       3       1       0       0       0       0         Cuba       5       1       0       0       0       0         Dominican Republic       7       0       0       0       0       0         Greenland       0       1       0       0       0       0         Guadeloupe       1       0       1       0       0       0       0         Guatemala       0       1       0       0       0       0       0         Haiti       8       0       0       0       0       0       0         Honduras       1       0       0       0       0       0       0							
Cuba         5         1         0         0         0         0           Dominican Republic         7         0         0         0         0         0           Greenland         0         1         0         0         0         0           Guadeloupe         1         0         1         0         0         0         0           Guatemala         0         1         0         0         0         0         0           Haiti         8         0         0         0         0         0         0           Honduras         1         0         0         0         0         0         0		3					
Dominican Republic         7         0         0         0         0         0           Greenland         0         1         0         0         0         0           Guadeloupe         1         0         1         0         0         0         0           Guatemala         0         1         0         0         0         0         0           Haiti         8         0         0         0         0         0         0           Honduras         1         0         0         0         0         0         0		5	1				
Greenland         0         1         0         0         0         0           Guadeloupe         1         0         1         0         0         0         0           Guatemala         0         1         0         0         0         0         0           Haiti         8         0         0         0         0         0         0           Honduras         1         0         0         0         0         0         0		7	0				
Guadeloupe         1         0         1         0         0         0           Guatemala         0         1         0         0         0         0         0           Haiti         8         0         0         0         0         0         0           Honduras         1         0         0         0         0         0         0	Greenland	0					
Guatemala         0         1         0         0         0         0           Haiti         8         0         0         0         0         0         0           Honduras         1         0         0         0         0         0         0		1	0				
Haiti 8 0 0 0 0 0 0 Honduras 1 0 0 0 0 0 0		0					
Honduras 1 0 0 0 0		8	0				
lamaina .		1	0				
	Jamaica	1	0	1	0		

Table 6. Extinct species: country totals by group (continued)

	MAMMALS	BIRDS	REPTILES	AMPHIBIAN	S FISHES	INVERTS
Martinique	1	0	2	0	0	0
Mexico	3	2	0	1	11	0
Puerto Rico	1	0	ő	Ö	0	0
Saint Lucia	1	0	0	ō	0	0
Saint Vincent	1	0	0	0	0	0
USA	2	5	1	1	17	61
USA: Hawaiian Islands	0	13	0	Ö	0	101
Virgin Islands of the United States	0	0	1	0	0	0
OCEANIA						
American Samoa	0	0	0	0	0	1
Australia	19	7	ő	0	1	4
Christmas Island	2	0	Ö	0	0	0
Cook Islands	0	0	0	0	0	14
Federated States of Micronesia	0	3	Ö	0	0	0
French Polynesia	0	5	0	0	0	
Guam	1	0	0	0	0	76
New Caledonia	0	3	0	0	0	2 4
New Zealand	1	13	1	0	1	
Norfolk Island	Ö	1	Ó	0	0	3
Palau	1	ò	0	0	0	0
Solomon Islands	1	2	0	0	_	0
Tonga	Ó	0	1		0	0
Western Samoa	0	1	0	0	0	0
SOUTH AMERICA						
Argentina	0	0	0	0	0	
Brazil	0	0	0			1
Colombia	1	0	0	0	0	2
Ecuador: Galapagos Islands	1	0	0	0	0	0 0
Unknown	0	1	D	0	0	0

The figures include species listed as Ex and Ex? They also include species that are known or believed to have become extinct since 1600AD or thereabouts (WCMC, 1992) and which have never appeared in previous Red Lists nor been given a status category.

# **GUEST ESSAY**

# The status of proposals to redefine the IUCN threatened species categories

Georgina M. Mace

#### Introduction

The threatened species categories now used in Red Data Books and Red Lists have been in place, with some modification, for almost 30 years (see Scott, Burton & Fitter 1987). Since their inception they have become recognised internationally, and they are now used in a whole range of publications and listings, not only those produced by IUCN. Their value is that they provide an easily comprehended method for highlighting those species at risk of extinction, in order to focus attention on conservation measures designed to protect them. Nowadays, with the increasing recognition that the resources available for conservation are finite and limited, the categories have become applied more frequently to setting priorities for conservation action. It is this change in emphasis that has provoked recent moves to redefine the categories.

# The application of threatened species categories

To play an effective role in conservation planning the categories need to have a number of characteristics. They need to be equally applicable across broad taxonomic groups whose basic biology and life histories differ in fundamental ways. They also need to be applicable to taxonomic levels below that of species, and to regional or national subsets. Because the amount of information about species varies widely from almost nothing (in the vast majority of cases) to full life history and distribution data (in a very few) the system used for placing taxa into categories also needs to make best use of data that are available, but should not preclude listing when information is sparse. Finally, and most importantly, the system should be based around an evaluation of how likely the taxon in question is to go extinct.

In this context, the current system has some drawbacks. The definitions are merely stated in terms of ".. in danger of extinction...". Without any reference to a time frame, or to the likelihood of extinction within this time frame, the definition can be interpreted in different ways by different authorities. This can result in the same species being classified quite differently, or in different taxa or different regional floras and faunas being judged by quite different standards. If conservation action is to be based upon them, threatened species categories will require an approach that is better validated. A more objective system that can be challenged and judged against an accepted set of rules is needed.

A second drawback of the current system is that a number of different kinds of variables are embedded in the definitions, which complicates their application to setting priorities. Thus while *Endangered* and *Vulnerable* measure the likelihood of extinction, *Rare* is defined in terms of the kind of distribution a species has. Species can be rare in a number of different ways: some have always had very restricted distributions (eg. some endemic island forms), others have been reduced from a formerly wide range; some are always found in small but scattered populations, others are widely distributed but limited to very specific habitat types (see Rabinowitz *et al.* 1986). The relationship between these different forms of rarity and extinction risk is not simple or well understood. *Insufficiently Known* is a category that simply describes the quality and quantity of information about a particular species and thus has no direct relationship to the severity of threat. Other categories that appear in some publications also measure different characteristics. For example, *Commercially Threatened* is a statement primarily about the cause of the extinction risk.

Many other threatened species classification schemes exist, focusing on particular regional or taxonomic groups, but most use definitions that are broadly similar in nature to the IUCN ones (Munton 1987).

The publication of Red Data Books and Lists has other implications. Diamond (1987), among others, has

discussed how this immediately puts a limit on the number of taxa that are recognised as being under threat of extinction because only described species can be listed, and once a list exists conservationists and survey expeditions focus especially on those species. Little attention is paid to taxa that are not listed, either because they have not been described or are not listed as threatened, and their plight worsens. In addition, once a taxonomic or regional list is produced, there is an implicit message that all described taxa in that group or region have been evaluated. This is often far from the case. Even among the vertebrates only a proportion of all the described species have been evaluated by IUCN. The birds have been fully reviewed; but only a proportion of other taxa have (see Introduction above and WCMC, 1992). Despite these difficulties, threatened species categories are widely used and recognised, especially at an international level. If the existing level of credibility given to them is to continue, they need to be more soundly based and more consistently applied.

# **New Proposals**

In 1990, the IUCN/SSC began a process to redefine the categories of threat used in Red Data Books. Russ Lande and I (Mace and Lande, 1991) proposed a new basis for the categories where the definitions were given explicitly and solely in terms of the estimated probability of extinction. The definitions we proposed were for three threat categories which we named *Critical*, *Endangered* and *Vulnerable*, which had decreasing probabilities of extinction over increasing time frames:

CRITICAL: 50% probability of extinction within 5 years or 2 generations, whichever is the

longer.

ENDANGERED: 20% probability of extinction within 20 years or 10 generations, whichever is the

longer.

VULNERABLE: 10% probability of extinction in 100 years

We chose to vary both time scale and extinction probability for a variety of reasons. First, a shorter time scale for the most threatened forms would focus attention on the immediacy of the problem and hopefully stimulate appropriately prompt action. But such short time scales would not be appropriate for the less threatened forms which might then seem to have very low extinction probabilities. The longest time scale for the lowest level of threat was set at 100 years which seems to be generally agreed as about the longest period for effective foresight and planning of human activities while a 5 or 10% chance of extinction within this period is about the highest level that conservation biologists have recommended (eg. see Shaffer, 1981).

We recognised that these definitions would be inadequate to classify species because there are no simple rules to translate from basic ecological information to extinction risk. We therefore also suggested a set of quantitative criteria which might be used operationally. The criteria that we proposed were based around population size, population structure and sub-structure, and observed or projected rates of decline. Although only a proposal, the Mace-Lande criteria (as they have become known) have been applied to a large number of species over the last couple of years, mainly through the Conservation and Assessment Management Plans (CAMPs) undertaken by the IUCN/SSC Captive Breeding Specialist Group and various taxon specialist groups of the SSC (Seal et al., 1993). This has provided invaluable material for assessing the proposal. A number of positive and negative aspects have emerged. On the positive side it is clear that with the informed input of specialists in the CAMP workshops, it is possible to classify the majority of species using the quantitative criteria. In the latest summary tables compiled by CBSG, 3130 out of 3559 (88%) of vertebrates species were classified as Safe or in one of the three new threat categories (Seal et al., 1993). With the comprehensive review procedure that is characteristic of CAMPs the proportion of described species that are listed as threatened increases substantially from previous levels. Of the 3130 vertebrate taxa classified by CAMPs, 1345 (43%) are listed as threatened. This is much higher than the levels previously seen in IUCN Red Lists. There are some factors that may in part explain this increase. First, CAMPs have tended to focus on higher order taxa that contain many species which are of conservation concern; a higher proportion of threatened forms might therefore be expected in this subset. Second, by necessity, many CAMP classifications are made on the basis of very little information, and group dynamics in workshop sessions are likely to lead to the more conservative estimates being accepted. Thus there may be a tendency for over-listing in this context, especially in the lower risk categories. Finally, CAMPs have routinely classified many sub-species which may, through restricted range and number, be more threatened than are species. However, a systematic examination of the data suggests that the increase is not simply an artefact of sub-species listing (Mace, in press).

Although widely used for vertebrates it soon became clear that there were difficulties in applying the Mace-Lande criteria to other taxa. Some of the terminology used was especially inappropriate for plants and invertebrates. With this background data available, the process for developing new categories continued in 1992 and 1993.

# **IUCN** proposed criteria

During the summer of 1992 a number of discussion papers were prepared presenting alternative methods for classifying species according to severity of threat. Among these was an investigation of the potential for using distribution and habitat data, and an alternative method based around management. These and some other papers provided the framework for a workshop held in November 1992, at which about 30 people representing a wide diversity of interests met to discuss the different proposals. In general, the technical workshop approved the general kinds of definitions that we had earlier proposed, but felt that additional kinds of information needed to be incorporated in the criteria. In order to formulate criteria for major taxonomic groups, four working groups were set up with responsibility for higher vertebrates, lower vertebrates, plants and invertebrates. Using the background papers as a starting point, they developed criteria appropriate for each major taxonomic grouping. At the end of the technical workshop there were four sets of criteria, all based around the categories Critical, Endangered, Vulnerable and a new lower risk category called Susceptible. The criteria drafted for plants included both population and distribution-based criteria, those for lower vertebrates and invertebrates were based around the number and status of known and suitable locations and populations, and the higher vertebrate criteria were largely population-based.

A drafting group was then formed to assimilate all these criteria into a single coherent proposal. The drafting group included at least one person from each of the taxonomic working groups, and for practical reasons most were based in the UK. The group produced an interim report in March 1993 which was subsequently published in *Species* (Mace *et al.*, 1992). This proposal was presented as a draft for discussion and evaluation and is reproduced in summary form here for general information (see Figures 6 and 7). Since its distribution a large number of comments have been received and a number of species have been classified. As this Red List goes to press, the precise proposal is still under active development and refinement. We expect that there will be some modifications to the criteria, to the notes for guidance and to the definitions of terms used, all of which form an integral part of the proposal. The formulation presented here should therefore be taken as a *general* description only, and should not be applied without reference to the full document (Mace *et al.*, 1992); the final version of the system will be available in early 1994.

One of the more controversial aspects of the working group's report was the decision to merge all the criteria from the different taxonomic working groups into a single consolidated set. This decision is worth explaining in detail. The reason that different criteria are needed for different major taxa is that there are broad life history differences between them. Thus, for example, population size can rarely be measured for a number of invertebrate groups, and even if it could be it may not provide a good predictor of extinction risk, which for many invertebrate species is more likely to be a function of a limited habitat availability. In general therefore, it is appropriate to have different criteria for different groups. However, there is not a complete correspondence between major taxonomic grouping and life history. For example, some plants and invertebrates have life histories more similar to higher vertebrates and some lower vertebrates have life histories more characteristic of plants. With the taxonomically split criteria it seemed likely that those species that were untypical for their group would be judged by inappropriate criteria. An alternative

strategy, to group the criteria by broad kinds of life history patterns, was felt to be unworkable because of the difficulties of making judgements about which set of criteria to judge any particular species by. In fact, on closer inspection, the criteria provided by each of the major taxon working groups could be seen to be generally quite similar. With little substantial change it was found that it was possible to include almost all of these criteria in a single list, and this seemed to be the most conservative solution to the problem. Using this approach, a species has only to qualify under any one criterion to be listed, and the fact that other criteria are not met, or even that they are wildly inappropriate, does not matter. For example, the fact that the home range size of a single large carnivorous mammal may exceed the qualifying range area for a threat category does not invalidate the range size criterion. The large carnivorous mammals are much more appropriately judged by their population size and status, so that what matters in terms of validating the criteria is whether any one is met, not whether all are appropriate.

Once the draft criteria were published, a period of about 6 months was available for comments to be submitted from all interested parties, and for trial classifications to be made using the criteria. There are still more comments coming in as this book goes to press but several major points have already emerged.

### The IUCN review

One evident concern is over the extent to which the proposed system relies on the ability of the person undertaking the evaluation to make appropriate estimations, inferences and projections about the status of the taxon in question. The system is quantitative so that all taxa are judged against a common standard, but we recognise that sufficient data of high quality rarely exist. Therefore it will be necessary to use available information to make explicit judgements. For example, known or estimated areas for current distributions along with characteristic population densities for similar species can be used to judge whether or not the taxon is likely to have a population size falling below the numbers specified in the criteria A or B for any category, and future decline rates calculated from estimated rates of habitat loss can be used to see whether the taxon will qualify under D for any category. This kind of reasoning does not come easily to many field biologists, but as the CAMP workshops have shown, it can be done for a majority of species once the context and methodology is understood. It is however an essential component of the system we have proposed, and it is clear that we need to give more guidance on how this should be done. We are also concerned to ensure that explicit reasoning should always accompany classifications.

A second issue relates to the many species that are now substantially reduced in numbers from historical levels, but which are now held relatively stable at moderate population sizes by continuing management. Depending on their current status, these species will sometimes not be listed because the category is a statement of current status and extinction risk, not a relative measure of current status compared to some previous level. We are looking at ways of highlighting these species, while recognising that effective management has limited the extent to which they are now threatened. Other systems will be needed to highlight those species that particular management authorities believe should be in greater numbers or distributed over wider areas.

A third issue concerns the general applicability of the range size values under criterion C which is now under special study for different taxa as well as for aquatic species.

#### Conclusions

Some of the consequences and side-benefits that we expect to result from application of the proposed system are as follows:

- Because the new categories are based around explicit definitions, the reasons for listing will be
  evident. Thus classifications will be accompanied by an indication of which criteria and subcriteria (Figure 7) were operative. This will enable judgements to be understood, and if necessary
  challenged and refined.
- 2. With appropriate input, and informed use of estimation, inference and projection, it will be

possible to classify the great majority of taxa into one of the new categories. The new set of categories should be more applicable to conservation planning as they are more explicit about what is being measured and what actions are therefore appropriate. Where there is really very little data, taxa can be classified as *Insufficiently known*. This is now not a threatened category but a separate status assessment indicating those species for which additional information is needed. Another category, again measuring a different status variable, is Not Evaluated. This is allocated to species that have not been evaluated at all against the categories. With effective use of all these categories it should be possible to arrive at useful and reliable data on many species, and summary data for particular taxa and regions should give a better idea of the status of species generally.

- 3. On the basis of the validations carried out so far, the proportion of threatened species in major taxa is likely to rise, although to what extent is not yet clear. The correspondence between species classified as highly threatened under the proposed and existing systems is high, but there are differences among the *Vulnerable* taxa. Some taxa previously listed as threatened will no longer qualify and *vice versa*.
- 4. A major benefit will be that data on fundamental species biology (population size and structure, geographical range area and decline rates) will become available. These data exist in a variety of forms and locations for many species, but are rarely collated into a useful form. The application of the new categories will result in these data being collected, stored and maintained over time, thus enabling monitoring of the status of many species. This is a fundamental pre-requisite for effective species conservation.

The new categories measure the severity of threat being faced by particular taxa. But this is only one aspect of setting priorities. In practice, priority assessment needs to include an assessment of logistical, political and financial factors, as well as incorporating other aspects of biodiversity. The taxonomic distinctiveness of the species and the number of other species that will benefit from its protection are both important biological components. There is a need to develop rational methods to incorporate all this information in decision-making processes.

### **ACKNOWLEDGEMENTS**

Nigel Collar and Kevin Gaston made helpful comments on an earlier draft of this essay. Along with the other members of the drafting group (Justin Cooke, Josh Ginsberg, Nigel Leader-Williams, Mike Maunder and E.J. Milner-Gulland) they have provided a great deal towards the development of the proposals. The process has been guided throughout by Simon Stuart. I am grateful to the Pew Scholars Program in Conservation and the Environment for financial support.

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# Figure 6. NEW DRAFT DEFINITIONS FOR THREATENED SPECIES CATEGORIES

**EXTINCT** 

A taxon is *Extinct* when there is no reasonable doubt that the last individual has died. A taxon is presumed extinct when exhaustive surveys in known and/or expected habitat, at appropriate times, throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

EXTINCT IN THE WILD

A taxon is *Extinct in the wild* when it is known only to survive in cultivation, in captivity, or as a naturalised population (or populations) outside the historical range.

**CRITICAL** 

A taxon is *Critical* when it is facing an extremely high probability of extinction in the wild in the immediate future. A taxon is defined as Critical by any of the quantitative criteria (A-E) (see Figure 7).

**ENDANGERED** 

A taxon is *Endangered* when it is not Critical but is facing a very high probability of extinction in the wild in the near future. A taxon is defined as *Endangered* by any of the quantitative criteria (A-E) (see Figure 7).

**VULNERABLE** 

A taxon is *Vulnerable* when it is not Critical or Endangered but is facing a high probability of extinction in the wild in the medium-term future. A taxon is defined as Vulnerable by any of the quantitative criteria (A-E) (see Figure 7).

SUSCEPTIBLE

A taxon is *Susceptible* when it does not qualify for any of the categories above, but is of concern because its range area is restricted (typically less than 100 km<sup>2</sup>, and/or it is found at few locations, which render it prone to the effects of human activities

SAFE/LOW RISK

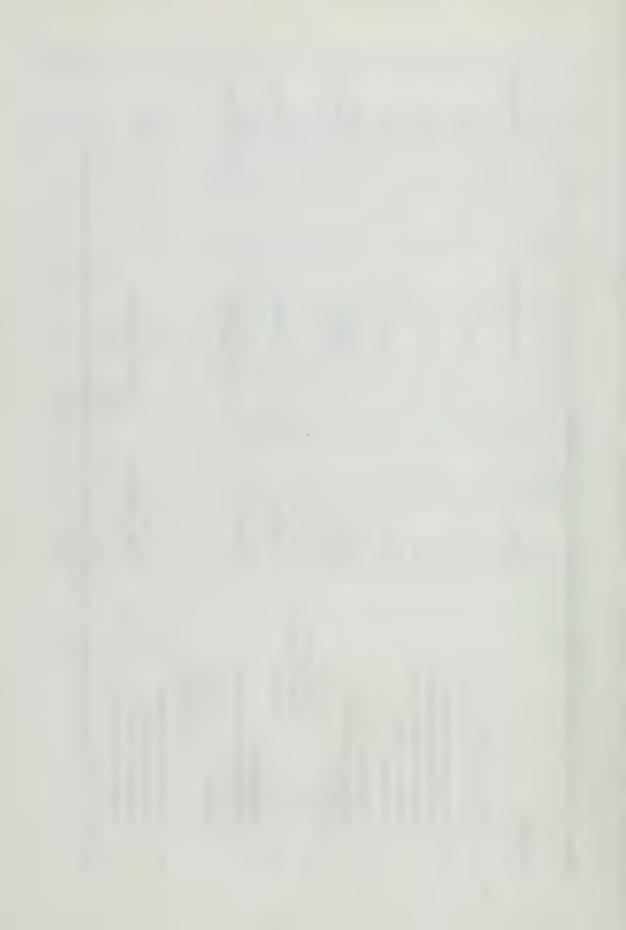
A taxon is Safe/Low Risk when it has been evaluated and found not to qualify for any of the threatened categories above.

Figure 7. OUTLINE OF DRAFT CRITERIA FOR QUANTITATIVE CATEGORIES

Any one of ↓	ne	CRITICAL	ENDANGERED	VULNERABLE
∢	VERY SMALL POPULATION SIZE number of mature individuals	250	<250	>1,000
æ	SMALL POPULATION SIZE number of mature individuals and either all populations small or small no. sub-pops and declining	<250 <50 <1 any rate	<pre>&lt;25,500 &lt;250 &lt;1 any rate</pre>	<pre>&lt;10,000 &lt;1,000 &lt;1 any rate</pre>
D D	SMALL DISTRIBUTION either geographical extent or range area and 2 of: - declining - either fragmented or small no. sub-pops - fluctuating	\$\leq\$100km <sup>2</sup> \$ \$\leq\$10km <sup>2</sup> \$ any rate + \$\leq\$1 >1 order/mag.	\$\leqsig \section \leqsig \leqsig \leqsig  \leqsig  \leqsig  \leqsig   \qquad	\$20,000km <sup>2</sup> \$2,000km <sup>2</sup> any rate + \$5 >1 order/mag.
Q	DECLINE RATE population decline rate at least in any of: - observed rates - inferred rates - projected rates	25%pa over 5yrs	5 yrs or 2 generations*	50% in 10 yrs or 3 generations
回	QUANTITATIVE ANALYSIS showing the probability of extinction in the wild	5 yrs or 2 generations*	20% in 20 yrs or 5 generations*	10% in 100 yrs*

Note that this table is for reference purposes only. To apply the criteria refer to the full document which provides definitions for terms used. \* whichever is the longer.

is expected to be at least



# List 1

# THREATENED SPECIES



### Class MAMMALIA

# Order MONOTREMATA

### Family TACHYGLOSSIDAE

E Zaglossus bruijni
 Long-beaked Echidna
 Indonesia: Irian Jaya; Papua New Guinea

### Order DASYUROMORPHIA

# Family MYRMECOBIIDAE

E Myrmecobius fasciatus Numbat Australia

# Family DASYURIDAE

E Dasycercus byrnei Kowari Australia

V Dasycercus cristicauda Mulgara Australia

E Dasyurus geoffroii Chuditch Australia

E Parantechinus apicalis
(Antechinus apicalis)
Dibbler
Australia

E Phascogale calura
Red-tailed Phascogale
Australia

R Sminthopsis aitkeni Kangaroo Island Dunnart Australia

R Sminthopsis butleri Carpentarian Dunnart Australia

E Sminthopsis douglasi Julia Creek Dunnart Australia

V Sminthopsis psammophila Sandhill Dunnart Australia

# Order PERAMELEMORPHIA

# Family PERAMELIDAE

E Isoodon auratus
Golden Bandicoot
Australia

W Macrotis lagotis
Bilby
Australia

E Perameles bougainville
Western Barred Bandicoot
Australia: Bernier Island. Dorre Island

V Perameles gunnii
Eastern Barred Bandicoot
Australia

### Family PERORYCTIDAE

R Echymipera clara
Clara Bandicoot
Indonesia: Irian Jaya

K Echymipera echinista Fly River Bandicoot Papua New Guinea

E Peroryctes broadbenti Giant Bandicoot Papua New Guinea

I Rhynchomeles prattorum
Ceram Bandicoot
Indonesia: Ceram

### Order DIPROTODONTIA

#### Family VOMBATIDAE

E Lasiorhinus krefftii
Northern Hairy-nosed Wombat
Australia

#### Family PHALANGERIDAE

V Phalanger Iuliulae Woodlark Island Cuscus Papua New Guinea: Woodlark Island

V Phalanger matanim
Telefomin Cuscus
Papua New Guinea

V Phalanger rothschildi Obi Cuscus Indonesia: Pulau Obi Besar

R Phalanger vestitus
Stein's Cuscus
Indonesia: Irian Jaya; Papua New Guinea

R Spilocuscus kraemeri
(may be a subspecies of S. maculatus)
Manus Island Spotted Cuscus
Papua New Guinea: Manus Island

R Spilocuscus papuensis
Waigeo Spotted Cuscus
Indonesia; Irian Jaya (Waigeo Island)

V Spilocuscus rufoniger (Phalanger rufoniger) Black-spotted Cuscus Indonesia: Irian Jaya; Papua New Guinea

### Family POTOROIDAE

E Bettongia lesueur Boodie

Australia: Bernier Island, Dorre Island, Barrow Island

E Bettongia penicillata
Woylie
Australia

E Bettongia tropica (may be included in B. penicillata) Northern Bettong Australia

E Potorous longipes
Long-footed Potoroo
Australia

# Family MACROPODIDAE

V Dendrolagus dorianus
Doria's Tree-kangaroo
Indonesia: Irian Jaya; Papua New Guinea

E Dendrolagus goodfellowi Goodfellow's Tree-kangaroo Papua New Guinea

V Dendrolagus inustus
Grizzled Tree-kangaroo
Indonesia: Irian Jaya; Papua New Guinea

V Dendrolagus matschiei Matschie's Tree-kangaroo Papua New Guinea

E Dendrolagus scottae Scott's Tree-kangaroo Papua New Guinea

V Dendrolagus spadix Lowland Tree-kangaroo Papua New Guinea

V Dendrolagus ursinus White-throated Tree-kangaroo Indonesia: Irian Jaya

V Dorcopsis atrata
Black Dorcopsis Wallaby
Papua New Guinea: Goodenough Island

V Dorcopsulus macleayi (Dorcopsis macleayi) Macleay's Dorcopsis Papua New Guinea E Lagorchestes hirsutus Mala Australia

E Lagostrophus fasciatus
Banded Hare-wallaby
Australia: Bernier Island, Dorre Island, Dirk
Hartog Island

R Macropus parma
Parma Wallaby
Australia
[New Zealand; Kawau Island]

E Onychogalea fraenata
Bridled Nailtail Wallaby
Australia

V Petrogale lateralis
Black-footed Rock-wallaby
Australia

V Petrogale penicillata
Brush-tailed Rock-wallaby
Australia

E Petrogale persephone
Prosperine Rock-wallaby
Australia

V Thylogale bruinii Southern Bush Wallaby Indonesia: Irian Jaya, Aru Islands; Papua New Guinea

E Thylogale calabyi
Alpine Wallaby
Papua New Guinea

### Family BURRAMYIDAE

E Burramys parvus

Mountain Pygmy-possum

Australia

#### Family PSEUDOCHEIRIDAE

K Pseudocheirus caroli
 Weyland Ringtail
 Indonesia: Irian Jaya

V Pseudocheirus occidentalis (P. peregrinus occidentalis) Western Ringtail Australia

K Pseudocheirus schlegeli
 Arfak Ringtail
 Indonesia: Irian Jaya

# Family PETAURIDAE

- V Dactylopsila megalura
  Great-tailed Troik
  Indonesia: Irian Jaya; Papua New Guinea
- E Dactylopsila tatei
  Fergusson Island Striped Possum
  Papua New Guinea: Fergusson Island
- E Gymnobelideus leadbeateri Leadbeater's Possum Australia
- V Petaurus abidi Northern Glider Papua New Guinea
- E Petaurus gracilis Mahogany Glider Australia

### Order XENARTHRA

# Family BRADYPODIDAE

E Bradypus torquatus
Maned Sloth
Brazil

# Family DASYPODIDAE

- K Chlamyphorus retusus (Burmeisteria retusa) Greater Pichi Ciego Argentina; Bolivia; Paraguay
- K Chlamyphorus truncatus Lesser Pichi Ciego Argentina
- V Priodontes maximus
  (P. giganteus)

Giant Armadillo

Argentina; Bolivia; Brazil; Colombia; French Guiana; Guyana; Paraguay; Peru; Suriname; Venezuela

E Tolypeutes tricinctus

Brazilian Three-banded Armadillo

Brazil

### Family MYRMECOPHAGIDAE

V Myrmecophaga tridactyla

(M. jubata)
Giant Anteater

Argentina; Belize (ex?); Bolivia; Brazil; Colombia; Costa Rica; Ecuador?; French Guiana; Guyana; Honduras; Nicaragua; Panama; Paraguay; Peru; Suriname; Uruguay; Venezuela

### Order INSECTIVORA

# Family SOLENODONTIDAE

- E Solenodon cubanus Cuban Solenodon Cuba
- E Solenodon paradoxus
  Haitian Solenodon
  Dominican Republic; Haiti

# Family TENRECIDAE

- K Geogale aurita Large-eared Tenrec Madagascar
- I Limnogale mergulus
  Aquatic Tenrec
  Madagascar
- K Microgale brevicaudata (includes M. occidentalis) Short-tailed Shrew-tenrec Madagascar
- K Microgale gracilis
  Gracile Shrew-tenrec
  Madagascar
- K Microgale longicaudata
  (includes M. majori)
  Lesser Long-tailed Shrew-tenrec
  Madagascar
- K Microgale parvula
  Pygmy Shrew-tenrec
  Madagascar
- K Microgale pulla (may be synonymous with M. parvula)
  Dusky Shrew-tenrec
  Madagascar
- K Microgale thomasi
  Thomas's Shrew-tenrec
  Madagascar
- E Micropotamogale lamottei
  Nimba Otter-shrew
  Côte d'Ivoire; Guinea; Liberia
- I Micropotamogale ruwenzorii
  Ruwenzori Otter-shrew
  Uganda; Zaire

### Family CHRYSOCHLORIDAE

I Amblysomus gunningi Gunning's Golden Mole South Africa

- I Amblysomus iris Zulu Golden Mole South Africa
- I Amblysomus julianae Juliana's Golden Mole South Africa
- R Calcochloris obtusirostris
  (Chlorotalpa obtusirostris)
  Yellow Golden Mole
  Mozambique; South Africa; Zimbabwe
- R Chlorotalpa duthieae
  Duthie's Golden Mole
  South Africa
- I Chlorotalpa sclateri
  Sclater's Golden Mole
  South Africa
- I Chlorotalpa tytonis Somali Golden Mole Somalia
- I Chrysochloris visagiei Visagie's Golden Mole South Africa
- R Chrysospalax trevelyani Giant Golden Mole South Africa
- V Chrysospalax villosus Rough-haired Golden Mole South Africa
- I Cryptochloris wintoni
  De Winton's Golden Mole
  South Africa
- I Cryptochloris zyli Van Zyl's Golden Mole South Africa
- R Eremitalpa granti
  Grant's Golden Mole
  Namibia; South Africa

### Family ERINACEIDAE

- R Ateleric frontalis
  (Erinaceus frontalis)
  South African Hedgehog
  Angola; Botswana; Lesotho; Namibia; South
  Africa; Zimbabwe
- V Podogymnura truei Mindanao Gymnure Philippines: Mindanao

# Family SORICIDAE

- K Congosorex polli (Myosorex polli) Zaire
- K Crocidura ansellorum Zambia
- K Crocidura baileyi Ethiopia
- K Crocidura congobelgica Zaire
- K Crocidura crenata Gabon
- K Crocidura eisentrauti Cameroon
- K Crocidura glassi Ethiopia
- K Crocidura grassei
  Cameroon; Central African Republic; Gabon
- K Crocidura kivuana Zaire
- K Crocidura lanosa Rwanda; Zaire
- K Crocidura latona Zaire
- K Crocidura longipes Nigeria
- K Crocidura lucina Ethiopia
- K Crocidura ludia (C. dolichura ludia) Zaire
- K Crocidura manengubae Cameroon
- K Crocidura maquassiensis
   Makwassie Musk Shrew
   South Africa; Zimbabwe
- K Crocidura monax Kenya; Tanzania; Zaire
- K Crocidura nimbae Côte d'Ivoire; Guinea; Liberia
- R Crocidura orii Orii's Shrew Japan: Sado
- K Crocidura phaeura Ethiopia

K Crocidura polia (C. dolichura polia) Zaire

K Crocidura raineyi (C. luna raineyi) Kenya

K Crocidura selina (C. luna selina) Uganda

K Crocidura stenocephala
(C. littoralis stenocephala)
Zaire

K Crocidura tansaniana Tanzania

K Crocidura telfordi Tanzania

K Crocidura thalia Ethiopia

K Crocidura thomensis
(C. poensis thomensis)
São Tomé and Príncipe: São Tomé

K Crocidura usambarae Tanzania

K Crocidura wimmeri Cameroon; Côte d'Ivoire; Gabon; Liberia

R Crocidura zimmermanni Greece: Crete

R Sorex sadonis Sado Shrew Japan: Sado

K Myosorex eisentrauti Cameroon; Equatorial Guinea

K Myosorex geata Tanzania

K Myosorex longicaudatus Long-tailed Forest Shrew South Africa

K Myosorex schalleri Zaire

K Paracrocidura graueri Zaire

K Paracrocidura maxima Rwanda; Uganda; Zaire

I Ruwenzorisorex suncoides (Sylvisorex suncoides) Burundi; Rwanda; Uganda; Zaire K Suncus remyi Gabon Dwarf Shrew Gabon

K Sylvisorex howelli Tanzania

K Sylvisorex ollula Cameroon; Gabon; Nigeria; Zaire

K Sylvisorex vulcanorum

Burundi; Rwanda; Uganda; Zaire

Family TALPIDAE

V Desmana moschata
Russian Desman
Belarus; Estonia; Kazakhstan; Latvia;
Lithuania; Russia; Turkmenistan; Ukraine

V Galemys pyrenaicus
Pyrenean Desman
Andorra?; France; Portugal; Spain

R Mogera tokudae Sado Mole Japan: Sado

Order CHIROPTERA

Family PTEROPODIDAE

E Acerodon jubatus
Golden-capped Fruit Bat
Philippines

I Aethalops alecto Pygmy Fruit Bat Brunei; Malaysia; Indonesia

R Alionycteris paucidentata Philippines: Mindanao

E Aproteles bulmerae
Bulmer's Fruit Bat
Papua New Guinea

R Dobsonia minor
 Lesser Naked-backed Fruit Bat
 Indonesia: Irian Jaya, Sulawesi; Papua New
 Guinea

I Dobsonia peronii
Western Naked-backed Fruit Bat
Indonesia

R Dyacopterus spadiceus

Dyak Fruit Bat

Brunei; Indonesia: Sumatra; Malaysia;

Philippines: Luzon, Mindanao

R Epomophorus angolensis Angolan Epauletted Fruit Bat Angola; Namibia R Epomophorus grandis
(Micropteropus grandis)
Lesser Angolan Epauletted Fruit Bat
Angola; Congo

V Epomops buettikoferi
Buettikofer's Epauletted Fruit Bat
Cote d'Ivoire; Ghana; Guinea; Liberia;
Nigeria; Sierra Leone

V Haplonycteris fischeri
Fischer's Pygmy Fruit Bat
Philippines

R Latidens salimalii India

R Megaerops kusnotoi Javan Tail-less Fruit Bat Indonesia: Java

R Micropteropus intermedius
Hayman's Epauletted Fruit Bat
Angola; Zaire

V Myonycteris brachycephala São Tomé Collared Fruit Bat São Tomé and Príncipe: São Tomé

V Myonycteris relicta
East African Collared Fruit Bat
Kenya; Tanzania

R Neopteryx frosti
Small-toothed Fruit Bat
Indonesia: Sulawesi

I Notopteris macdonaldii
Long-tailed Fruit Bat
Fiji; New Caledonia; Vanuatu

R Nyctimene aello
Broad-striped Tube-nosed Fruit Bat
Indonesia: Irian Jaya; Papua New Guinea

I Nyctimene cyclotis
 Round-eared Tube-nosed Fruit Bat
 Indonesia: Irian Jaya; Papua New Guinea

R Nyctimene draconilla Indonesia: Irian Jaya; Papua New Guinea

E Nyctimene rabori
Philippines Tube-nosed Fruit Bat
Philippines: Negros

I Otopteropus cartilagonodus Philippines: Luzon

R Paranyctimene raptor
Lesser Tube-nosed Fruit Bat
Indonesia: Irian Jaya; Papua New Guinea

R Plerotes anchietae d'Anchieta's Fruit Bat Angola; Zaire; Zambia

E Pteralopex acrodonta Fiji

E Pteralopex anceps
Papua New Guinea; Bougainville; Solomon
Islands

E Pteralopex atrata
Cusp-toothed Fruit Bat
Solomon Islands

E Pteralopex pulchra
Solomon Islands: Guadalcanal

I Pteropus anetianus
White Flying-fox
Vanuatu

E Pteropus dasymallus
Ryukyu Flying-fox
Japan: Ryukyu Islands; Taiwan

E Pteropus insularis
Chuuk Flying-fox
Federated States of Micronesia: Chuuk

V Pteropus leucopterus Philippines

E Pteropus livingstonei
Comoro Black Flying-fox
Comoros: Mwali (Mohéli) and Nzwani
(Anjouan)

V Pteropus mahaganus
Lesser Flying-fox
Panua Naw Guinea: Rouge

Papua New Guinea: Bougainville; Solomon Islands: Santa Isabel

V Pteropus mariannus
Marianas Flying-fox
Federated States of Micronesia; Guam; Japan:
Ryukyu Islands; Northern Mariana Islands;
Palau

E Pteropus molossinus
Pohnpei Flying-fox
Federated States of Micronesia: Chuuk,
Pohnpei

V Pteropus niger Greater Mascarene Flying-fox Mauritius

I Pteropus ornatus New Caledonia E Pteropus phaeocephalus
(probably a subspecies of P. insularis)
Mortlock Islands Flying-fox
Federated States of Micronesia: Chuuk

V Pteropus pselaphon
Japan: Kazan-retto (Volcano Islands),
Ogasawara-shoto (Bonin Islands)

V Pteropus pumilus
 Little Golden-mantled Flying-fox
 Indonesia: Miangas; Philippines

E Pteropus rodricensis
Rodrigues Flying-fox
Mauritius; Rodrigues

V Pteropus samoensis Samoa Flying-fox American Samoa; Fiji; Western Samoa

R Pteropus speciosus
Indonesia: Laut Kecil, Masalembu Besar,
Philippines

R Pteropus vetulus New Caledonia

E Pteropus voeltzkowi Pemba Flying-fox Tanzania: Pemba

R Syconycteris hobbit
Moss-forest Blossom Bat
Papua New Guinea

# Family CRASEONYCTERIDAE

R Craseonycteris thonglongyai Kitti's Hog-nosed Bat Thailand

#### Family EMBALLONURIDAE

E Coleura seychellensis
Seychelles Sheath-tailed Bat
Seychelles

K Emballonura furax
 Greater Sheath-tailed Bat
 Indonesia: Irian Jaya; Papua New Guinea

K Emballonura raffrayana
 Raffray's Sheath-tailed Bat
 Indonesia: Irian Jaya, Kai Islands, Seram,
 Sulawesi; Papua New Guinea; Solomon Islands

V Emballonura semicaudata American Samoa (ex?); Fiji; Guam; Northern Mariana Islands; Palau; Samoa (ex?); Vanuatu

# Family MEGADERMATIDAE

V Macroderma gigas Ghost Bat Australia

### Family RHINOLOPHIDAE

R Hipposideros papua Geelvinck Bay Leaf-nosed Bat Indonesia: Biak, Irian Jaya, northern Moluccas

V Hipposideros ridleyi
Ridley's Leaf-nosed Bat
Malaysia: Peninsular Malaysia, Sabah;
Singapore

K Rhinonicteris aurantia
Orange Leaf-nosed Bat
Australia

### Family PHYLLOSTOMIDAE

K Leptonycteris curasoae
 (includes L. yerbabuenae = L. sanborni)
 Aruba; Colombia; Netherlands Antilles:
 Bonaire, Curacao; El Salvador; Guatemala;
 Mexico; USA; Venezuela

V Leptonycteris nivalis
Big Long-nosed Bat
Guatemala; Mexico; USA

K Phyllonycteris aphylla Jamaican Flower Bat Jamaica

K Phyllonycteris poeyi
Cuban Flower Bat
Cuba; Dominican Republic; Haiti

### Family MYZOPODIDAE

V Myzopoda aurita Sucker-footed Bat Madagascar

# Family VESPERTILIONIDAE

K Glischropus javanus
 Javan Thick-thumbed Bat
 Indonesia: Java

Myotis capaccinii
Long-fingered Bat
Algeria; Austria; Bulgaria; France; Greece;
Iraq; Iran; Israel; Italy; Jordan; Lebanon;
Malta; Morocco; Slovenia; Spain: including
Balearic Islands; Turkey; Uzbekistan;
Yugoslavia

### Myotis dasycneme

Pond Bat

Austria; Belarus; Belgium; China; Czech Republic; Denmark; Estonia; France; Germany; Hungary: Kazakhstan: Latvia; Lithuania; Luxembourg: Netherlands; Poland; Russia; Slovakia; Sweden; Switzerland; Ukraine

#### E Myotis grisescens

Grev Bat **USA** 

# Mvotis mvotis

Greater Mouse-eared Bat

Albania; Austria; Azores; Belarus; Belgium; Bulgaria; Cyprus; Czech Republic; France; Germany; Greece; Hungary; Israel; Italy; Jordan; Lebanon; Liechtenstein; Luxembourg; Malta: Netherlands: Poland: Portugal; Romania: Slovakia: Slovenia: Switzerland; Syria; Turkey; Ukraine; United Kingdom (ex?); Yugoslavia

# Myotis sodalis Indiana Bat

USA

Plecotus townsendii Ι

Townsend's Big-eared Bat Canada; Mexico; USA

### Family MYSTACINIDAE

# Mystacina tuberculata

New Zealand Lesser Short-tailed Bat New Zealand

### Family MOLOSSIDAE

K Otomops formosus Javan Mastiff Bat

Indonesia: Java

V Otomops wroughtoni

Wroughton's Free-tailed Bat India

#### Order PRIMATES

#### Family CHEIROGALEIDAE

E Allocebus trichotis

> (Cheirogaleus trichotis) Hairy-eared Dwarf Lemur

Madagascar

# Microcebus coquereli

(Mirza coquereli)

Coquerel's Mouse-lemur

Madagascar

#### Phaner furcifer R Fork-marked Lemur

Madagascar

# Family LEMURIDAE

### Eulemur coronatus

(Eulemur mongoz coronatus; often included in Lemur) Crowned Lemur

Madagascar

#### Eulemur macaco

(Lemur macaco)

Black Lemur

Madagascar

#### Eulemur mongoz E

(Lemur mongoz)

Mongoose Lemur

Comoros: Mwali (Mohéli) and Nzwani (Anjouan); Madagascar

#### Eulemur rubriventer

(Lemur rubriventer)

Red-bellied Lemur

Madagascar

#### E Hapalemur aureus

Golden Bamboo Lemur

Madagascar

#### Ε Hapalemur simus

Broad-nosed Gentle Lemur

Madagascar

#### Lemur catta

Ring-tailed Lemur

Madagascar

#### E Varecia variegata

Ruffed Lemur

Madagascar

# Family MEGALADAPIDAE

#### Lepilemur dorsalis

(L. mustelinus dorsalis)

Grey-backed Sportive Lemur

Madagascar

#### R Lepilemur edwardsi

(L. mustelinus edwardsi)

Milne-Edwards' Sportive Lemur

Madagascar

#### R Lepilemur leucopus

(L. mustelinus leucopus)

White-footed Sportive Lemur

Madagascar

# R Lepilemur microdon

(L. mustelinus microdon)

Light-necked Sportive Lemur Madagascar

R Lepilemur mustelinus

Greater Sportive Lemur Madagascar

R Lepilemur ruficaudatus

(L. mustelinus ruficaudatus)

Red-tailed Sportive Lemur

Madagascar

V Lepilemur septentrionalis

(L. mustelinus septentrionalis)

Northern Sportive Lemur

Madagascar

### Family INDRIDAE

### V Avahi laniger

(Lichanotus laniger)

Woolly Lemur

Madagascar

E Indri indri

Indri

Madagascar

E Propithecus diadema

Diademed Sifaka

Madagascar

E Propithecus tattersalli

Golden-crowned Sifaka

Madagascar

V Propithecus verreauxi

Verreaux's Sifaka

Madagascar

# Family DAUBENTONIIDAE

# E Daubentonia madagascariensis

Ave-ave

Madagascar

#### Family LORIDAE

### V Arctocebus calabarensis

Golden Potto

Angola; Cameroon; Central African Republic?; Congo; Equatorial Guinea; Gabon; Nigeria;

Zaire?

### V Nycticebus pygmaeus

Pygmy Loris

Cambodia?; China; Laos; Viet Nam

#### Family GALAGONIDAE

#### V Galago matschiei

(G. inustus, sometimes referred to Euoticus)

Eastern Needle-clawed Galago

Rwanda?; Uganda; Zaire

# K Galagoides thomasi

(G. demidoff thomasi, often included in Galago)

Thomas's Galago

Angola?; Cameroon; Kenya?; Malawi?;

Nigeria?; Tanzania?; Uganda; Zaire

# V Galagoides zanzibaricus

(G. senegalensis zanzibaricus, often included in

Galago)

Zanzibar Galago

Kenya; Malawi; Mozambique; Somalia;

Tanzania: including Zanzibar, Zimbabwe

# Family TARSIIDAE

I Tarsius dianae

Indonesia: Sulawesi

### I Tarsius pumilus

(T. spectrum pumilus)

Lesser Spectral Tarsier

Indonesia: Sulawesi

### K Tarsius spectrum

Spectral Tarsier

Indonesia: Peleng, Sangir, Savu, Seleyar,

Sulawesi

# Family CALLITRICHIDAE

### R Callimico goeldii

Goeldi's Marmoset

Bolivia; Brazil; Colombia; Ecuador?; Peru

#### E Callithrix aurita

(C. jacchus aurita)

Buffy-tufted-ear Marmoset

Brazil

### V Callithrix chrysoleuca

(C. humeralifer chrysoleuca)

Golden-white Tassel-ear Marmoset

Brazil

### E Callithrix flaviceps

(C. jacchus flaviceps)

Buffy-headed Marmoset

Brazil

# V Callithrix geoffroyi

(C. jacchus geoffroyi)

Geoffroy's Tufted-ear Marmoset

Brazil

#### V Callithrix intermedia

(C. argentata intermedia, C. humeralifer intermedia)

Aripuană Marmoset

Brazil

#### V Callithrix kuhli

(may be included in C. jacchus) Wied's Marmoset Brazil

Callithrix nigriceps

(C. argentata nigriceps)

Black-headed Marmoset

Brazil

# Leontopithecus caissara

(L. rosalia caissara, may be a form of L. [rosalia] chrysopygus) Black-faced Lion Tamarin Brazil

#### Leontopithecus chrysomelas E

(L. rosalia chrysomelas) Golden-headed Lion Tamarin Brazil

E Leontopithecus chrysopygus

(L. rosalia chrysopygus) Golden-rumped Lion Tamarin Brazil

Leontopithecus rosalia

(L. rosalia rosalia)

Golden Lion Tamarin

Brazil

#### E Saguinus leucopus

White-footed Tamarin

Colombia

#### E Saguinus oedipus

Cotton-top Tamarin Colombia

K Saguinus tripartitus

> Golden-mantled Saddle-back Tamarin Ecuador; Peru

### Family CEBIDAE

#### V Alouatta fusca

(A. guariba, includes A. beniensis)

Brown Howler

Argentina; Bolivia; Brazil

#### K Alouatta pigra

(A. villosa)

Guatemalan Howler

Belize: Guatemala: Mexico

#### V Aotus brumbacki

Brumback's Night Monkey

Colombia

#### V Aotus miconax

(A. trivirgatus miconax) Andean Night Monkey Penu

Ateles belzebuth

Long-haired Spider Monkey

Brazil; Colombia; Ecuador; Peru; Venezuela

#### V Ateles fusciceps

Brown-headed Spider Monkey Colombia; Ecuador; Panama

#### Ateles geoffroyi

Geoffroy's Spider Monkey

Belize: Colombia?: Costa Rica; El Salvador; Guatemala; Honduras; Mexico; Nicaragua; Panama

# Ateles paniscus

(includes A. chamek)

Black Spider Monkey

Bolivia; Brazil; French Guiana; Guyana; Peru; Suriname

#### Brachyteles arachnoides E

Muriqui

Brazil

#### Ε Cacajao calvus

(includes C. rubicundus)

Bald Uakari

Brazil: Peru

#### E Cacajao melanocephalus

Black Uakari

Brazil; Colombia; Venezuela

#### V Callicebus oenanthe

Andean Titi Monkey

Peni

### Callicebus olallae

Beni Titi Monkey

Bolivia

#### Callicebus personatus

Masked Titi

Brazil

#### Ε Cebus kaapori

(C. apella kaapori)

Ka'apor Capuchin Monkey

Brazil

#### Chiropotes albinasus

White-nosed Bearded Saki

Brazil

E Lagothrix flavicauda

(L. hendeei)

Yellow-tailed Woolly Monkey

Ecuador?; Peru

V Lagothrix lagothricha

Common Woolly Monkey

Bolivia; Brazil; Colombia; Ecuador, Peru

V Pithecia aequatorialis

Equatorial Saki

Ecuador, Peru

E Saimiri oerstedii

Central American Squirrel Monkey

Costa Rica; Panama

V Saimiri vanzolinii

(S. boliviensis vanzolinii)

Blackish Squirrel Monkey

Brazil

### Family CERCOPITHECIDAE

K Allenopithecus nigroviridis

(Cercopithecus nigroviridis)

Allen's Swamp Monkey Angola?; Congo; Zaire

V Cercopithecus diana

(includes C. roloway)

Diana Guenon

Côte d'Ivoire; Ghana; Guinea; Liberia; Sierra

Leone: Togo

K Cercopithecus dryas

(C. salongo)

Salongo Guenon

Zaire

E Cercopithecus erythrogaster

Red-bellied Guenon

Benin?; Nigeria; Togo

V Cercopithecus erythrotis

Russet-eared Guenon

Cameroon; Equatorial Guinea: Bioko

V Cercopithecus hamlyni

Owl-faced Guenon

Rwanda; Uganda; Zaire

V Cercopithecus lhoesti

(includes C. thomasi)

L'Hoest's Monkey

Burundi; Rwanda; Uganda; Zaire

E Cercopithecus preussi

(C. lhoesti preussi)

Preuss's Guenon

Cameroon; Equatorial Guinea: Bioko

E Cercopithecus sclateri White-throated Guenon

Nigeria

E Cercopithecus solatus

Sun-tailed Guenon

Gabon

V Colobus polykomos

Western Black-and-white Colobus

Côte d'Ivoire; Gambia; Guinea; Guinea

Bissau; Liberia; Senegal; Sierra Leone.

V Colobus satanas

Black Colobus

Cameroon; Congo; Equatorial Guinea:

including Bioko; Gabon

V Colobus vellerosus

(Colobus polykomos vellerosus)

Geoffroy's Black-and-white Colobus

Benin; Côte d'Ivoire; Ghana; Nigeria; Togo

K Macaca arctoides

Stump-tailed Macaque

Bangladesh; Cambodia; China; India; Laos;

Malaysia; Myanmar; Thailand; Viet Nam

V Macaca cyclopis

(M. mulatta cyclopis)

Taiwan Macaque

Taiwan

[Japan]

V Macaca fuscata

Japanese Macaque

Japan

V Macaca maura

(M. nigra maura)

Moor Macaque

Indonesia: Sulawesi

I Macaca nigra

Celebes Black Macaque

Indonesia: Sulawesi

E Macaca silenus

Lion-tailed Macaque

India

V Macaca sylvanus

Barbary Macaque

Algeria; Morocco [Gibraltar]

K Macaca thibetana

Tibetan Macaque

China

#### Mandrillus leucophaeus E

(Papio leucophaeus)

Drill

Cameroon; Equatorial Guinea; Bioko; Gabon?;

### Mandrillus sphinx

(Papio sphinx)

Mandrill

Cameroon; Congo; Equatorial Guinea; Gabon

#### E Nasalis concolor

(Simias concolor)

Pig-tailed Snub-nosed Monkey Indonesia: Mentawai Islands

#### V Nasalis larvatus

Proboscis Monkey

Brunei; Indonesia: Kalimantan; Malaysia: Sabah, Sarawak

#### Ε Presbytis comata

(P. aygula)

Grizzled Leaf Monkey Indonesia: Java

#### $\mathbf{E}$ Presbytis potenziani

Mentawai Leaf Monkey

Indonesia: Mentawai Islands

### Procolobus verus

(Colobus verus)

Olive Colobus

Benin?; Côte d'Ivoire; Ghana; Guinea; Liberia; Nigeria; Sierra Leone; Togo?

#### $\mathbf{E}$ Pygathrix avunculus

(Rhinopithecus avunculus)

Tonkin Snub-nosed Monkey

Viet Nam

#### E Pygathrix brelichi

(P. roxellana brelichi, sometimes referred to Rhinopithecus)

Guizhou Snub-nosed Monkey

China

#### Ε Pygathrix nemaeus

Douc Monkey

Cambodia; China: Hainan; Laos; Viet Nam

#### V Pygathrix roxellana

(Rhinopithecus roxellana)

Golden Snub-nosed Monkey

China; India?: Arunachal Pradesh, Manipur

#### R Theropithecus gelada

Gelada Baboon

Ethiopia

#### E Trachypithecus francoisi

(Presbytis francoisi, Semnopithecus francoisi)

François' Leaf Monkey

China; Laos; Viet Nam

#### R Trachypithecus geei

(possibly a subspecies of T. pileatus, sometimes

referred to Presbytis or Semnopithecus)

Golden Leaf Monkey

Bhutan: India

#### Ι Trachypithecus johnii

(Presbytis johnii, Semnopithecus johnii)

Nilgiri Leaf Monkey

India

### Family HYLOBATIDAE

### Hylobates concolor

(includes H. leucogenys)

Black Gibbon

Cambodia; China; Laos; Viet Nam

#### $\mathbf{E}$ Hylobates hoolock

Hoolock Gibbon

Bangladesh; China; India; Laos?; Myanmar

#### E Hylobates klossii

Mentawai Gibbon

Indonesia: Mentawai Islands

#### E Hylobates moloch

(H. lar moloch)

Silvery Gibbon

Indonesia: Java

#### E Hylobates pileatus

(H. lar pileatus)

Pileated Gibbon

Cambodia: Laos: Thailand

### Family HOMINIDAE

#### Gorilla gorilla

Gorilla

Angola; Burundi (ex?); Cameroon; Central African Republic; Congo; Equatorial Guinea; Gabon; Nigeria; Rwanda; Uganda; Zaire

#### Pan paniscus

Dwarf Chimpanzee

Congo?: Zaire

# Pan troglodytes

Chimpanzee

Angola; Burundi; Cameroon; Central African Republic; Congo; Côte d'Ivoire; Equatorial Guinea; Gabon; Ghana; Guinea; Guinea-Bissau (ex?); Liberia; Mali; Nigeria; Rwanda (ex?): Senegal; Sierra Leone; Sudan; Tanzania; Uganda: Zaire

# E Pongo pygmaeus

Orang-utan

Brunei?; Indonesia: Kalimantan, Sumatra; Malaysia: Sabah, Sarawak

#### Order CARNIVORA

#### Family CANIDAE

# V Canis lupus

Grey Wolf

Afghanistan; Albania; Armenia; Azerbaijan; Bangladesh (ex?); Belarus; Bhutan; Bulgaria; Canada; China; Czech Republic?; Estonia; Egypt; Finland; Greece; Greenland; India; Iran; Iraq; Israel; Italy; Jordan; Kazakhstan; Korea D.P.R; Korea Republic?; Kuwait; Kyrgyzstan; Latvia; Lebanon; Libya; Lithuania; Mexico; Moldova; Mongolia; Myanmar (ex?); Nepal; Norway; Oman; Pakistan; Poland; Portugal; Romania; Russia; Saudi Arabia; Slovakia; Slovenia; Spain; Sweden; Syria; Tajikistan; Turkey; Turkmenistan; Ukraine; USA; Uzbekistan; Viet Nam; Yemen; Yugoslavia

### E Canis rufus

(C. niger)
Red Wolf

USA

#### E Canis simensis

Ethiopian Wolf Ethiopia

### V Chrysocyon brachyurus

Maned Wolf

Argentina; Bolivia; Brazil; Paraguay; Peru

### V Cuon alpinus

Asiatic Wild Dog

Bangladesh; Bhutan; Cambodia; China; India; Indonesia: Java, Sumatra; Kazakhstan?; Korea D.P.R?; Korea Republic?; Kyrgyzstan?; Laos; Malaysia: Peninsular Malaysia; Mongolia; Myanmar; Nepal; Russia; Sri Lanka (ex?); Tajikistan?; Thailand; Uzbekistan?; Viet Nam

### V Dusicyon griseus

(Pseudalopex griseus, includes D. fulvipes) Grey Zorro, Argentine Grey Fox

Argentina; Chile; Falkland Islands; Peru

## K Dusicyon microtis

(Atelocynus microtis)

Small-eared Dog

Bolivia?; Brazil; Colombia; Ecuador, Peru

#### K Dusicyon sechurae

(Pseudalopex sechurae)

Sechuran Zorro

Ecuador, Peru

#### K Dusicyon vetulus

(Pseudalopex vetulus)

Hoary Zorro

Brazil

#### K Fennecus zerda

(Vulpes zerda)

Fennec Fox

Algeria; Burkina Faso?; Chad; Egypt; Israel; Kuwait; Libya; Mauritania; Morocco; Niger; Oman; Sudan; Tunisia; Western Sahara

# E Lycaon pictus

Wild Dog

Algeria (ex?); Angola; Benin (ex?); Botswana; Burkina Faso; Burundi (ex?); Cameroon; Central African Republic; Chad; Congo (ex?); Côte d'Ivoire; Ethiopia; Gabon (ex?); Ghana (ex?); Guinea; Kenya; Malawi; Mali (ex?); Mauritania?; Mozambique; Namibia; Niger; Nigeria; Rwanda (ex?); Senegal; Sierra Leone; Somalia; South Africa; Sudan; Swaziland; Tanzania; Togo (ex?); Uganda (ex?); Zaire (ex?); Zambia; Zimbabwe

## V Speothos venaticus

Bush Dog

Argentina; Bolivia; Brazil; Colombia; Ecuador; French Guiana; Guyana; Panama; Paraguay; Peru; Suriname; Venezuela

### R Urocyon littoralis

(probably conspecific with *U. cinereoargentatus*) Island Grey Fox

USA: islands offCalifornia

# I Vulpes bengalensis

Bengal Fox

Bangladesh; India; Nepal; Pakistan

# K Vulpes cana

Blanford's Fox

Afghanistan; Iran; Israel; Oman; Pakistan; Turkmenistan

### K Vulpes corsac

Corsac Fox

Afghanistan; China; Kazakhstan; Kyrgyzstan; Mongolia; Russia; Turkmenistan

### K Vulpes pallida

Pale Fox

Burkina Faso; Cameroon; Chad; Guinea; Libya; Mali; Niger; Nigeria; Senegal; Sudan

## K Vulpes rueppelli

Rueppell's Fox

Afghanistan; Algeria; Chad; Egypt; Ethiopia; Iraq; Iran; Libya; Morocco; Niger; Saudi Arabia; Somalia; Sudan; Yemen

### Family FELIDAE

## V Acinonyx jubatus

Cheetah

Afghanistan (ex?); Algeria (ex?); Angola; Benin; Botswana; Burkina Faso; Cameroon; Chad; Ethiopia; Iran; Jordan (ex?); Kenya; Libya; Malawi; Mali; Mauritania; Morocco (ex?); Mozambique; Namibia; Niger; Nigeria; Pakistan (ex?); Saudi Arabia (ex?); Senegal; Somalia; South Africa; Sudan; Swaziland; Tanzania; Turkmenistan; Uganda; Western Sahara (ex?); Zaire; Zambia; Zimbabwe

#### K Catopuma badia

(Felis badia)

Bay Cat

Brunei; Indonesia: Kalimantan; Malaysia: Sabah, Sarawak

#### I Catopuma temmincki

(Felis temmincki)

Asiatic Golden Cat

Bangladesh; Bhutan; Cambodia; China; India; Indonesia: Sumatra; Laos; Malaysia: Peninsular Malaysia; Myanmar, Nepal; Thailand; Viet Nam

# K Felis bieti

Chinese Desert Cat China

#### K Felis margarita

Sand Cat

Algeria; Egypt; Iran; Israel; Jordan; Kazakhstan; Morocco; Niger; Oman; Pakistan; Qatar; Saudi Arabia; Senegal; Turkmenistan; Uzbekistan; Yemen

### K Leopardus tigrinus

(Felis tigrina)

Little Spotted Cat

Argentina; Brazil; Colombia; Costa Rica; Ecuador; French Guiana; Guyana; Nicaragua?; Paraguay?; Peru?; Suriname; Venezuela

#### K Leopardus wiedii

(Felis wiedii)

Margay

Argentina; Belize; Bolivia; Brazil; Colombia; Costa Rica; Ecuador; El Salvador; French Guiana?; Guatemala; Guyana; Honduras; Mexico; Nicaragua; Panama; Paraguay; Peru; Suriname; Uruguay; Venezuela

# E Lynx pardinus

(L. lynx pardinus, sometimes included in Felis)
Spanish Lynx
Portugal; Spain

# V Neofelis nebulosa

Clouded Leopard

Bangladesh (ex?); Bhutan; Brunei; Cambodia?; China; India; Indonesia: Kalimantan, Sumatra; Laos; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Myanmar; Nepal; Taiwan; Thailand; Viet Nam

# I Oncifelis colocolo

(Felis colocolo)

Pampas Cat, Chilean Pampas Cat

Argentina; Bolivia; Brazil; Chile; Ecuador; Paraguay; Peru; Uruguay

### I Oncifelis guigna

(Felis guigna)

Kodkod, Chilean Cat

Argentina; Chile

# K Oreailurus jacobita

(Felis jacobita)

Andean Cat

Argentina; Bolivia; Chile; Peru

### K Otocolobus manul

(Felis manul)

Pallas's Cat

Afghanistan; Armenia; China; India; Iran; Kazakhstan; Kyrgyzstan; Mongolia; Pakistan; Russia; Tajikistan; Turkmenistan; Uzbekistan

#### E Panthera tigris

Tiger

Afghanistan (ex?); Bangladesh; Bhutan; Cambodia; China; India; Indonesia: Java, Sumatra; Kazakhstan; Korea D.P.R (ex?); Kyrgyzstan; Laos; Malaysia: Peninsular Malaysia; Myanmar, Nepal; Russia; Tajikistan; Thailand; Turkmenistan; Uzbekistan; Viet Nam

#### K Pardofelis marmorata

(Felis marmorata)

Marbled Cat

Bangladesh?; Bhutan?; Brunei; Cambodia; China; India; Indonesia: Kalimantan, Sumatra; Laos; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Myanmar, Nepal; Thailand; Viet Nam

### K Prionailurus planiceps

(Felis planiceps)

Flat-headed Cat

Brunei; Indonesia: Kalimantan, Sumatra; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Thailand

### K Prionailurus rubiginosa

(Felis rubiginosa)

Rusty-spotted Cat

India: Sri Lanka

#### K Prionailurus viverrinus

(Felis viverrinus, F. viverrina)

Fishing Cat

Bangladesh; Bhutan; Cambodia; China; India; Indonesia: Bali, Java, Sumatra; Laos; Malaysia: Peninsular Malaysia: Nepal: Pakistan; Sri Lanka; Taiwan; Thailand; Viet Nam

#### K Profelis aurata

(Felis aurata)

African Golden Cat

Angola; Burkina Faso; Burundi; Cameroon; Central African Republic; Congo; Côte d'Ivoire; Equatorial Guinea; Gabon; Gambia; Ghana; Guinea?; Kenya; Liberia; Niger?; Rwanda; Senegal; Sierra Leone; Togo?; Uganda; Zaire

#### E Uncia uncia

(Panthera uncia)

Snow Leopard

Afghanistan; Bhutan; China; India; Kazakhstan; Kyrgyzstan; Mongolia; Nepal; Pakistan; Russia; Tajikistan; Uzbekistan

#### Family HERPESTIDAE

# Bdeogale jacksoni Jackson's Mongoose

Kenya; Uganda

#### Ι Galidictis fasciata

Broad-striped Mongoose Madagascar

#### R Galidictis grandidieri

(G. grandidiensis)

Giant-striped Mongoose Madagascar

#### E Liberiictis kuhni

Liberian Mongoose

Liberia; Côte d'Ivoire; Guinea

#### Mungotictis decemlineata

Narrow-striped Mongoose

Madagascar

#### K Salanoia concolor

Brown-tailed Mongoose

Madagascar

#### Family HYAENIDAE

#### Hyaena brunnea

Brown Hyaena

Angola; Botswana; Mozambique; Namibia; South Africa; Zimbabwe

# Family MUSTELIDAE

#### K Aonyx cinerea

Oriental Small-clawed Otter

Bangladesh; Bhutan; Brunei; Cambodia; China; India; Indonesia: Java, Kalimantan, Sumatra; Laos; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Myanmar; Nepal; Philippines: Palawan; Singapore; Sri Lanka; Thailand; Viet Nam

## Gulo gulo

Wolverine

Canada; Estonia; Finland; Mongolia; Norway; Russia; Sweden; USA

#### V Lutra felina

(Lontra felina)

Marine Otter

Argentina; Chile; Peru

#### K Lutra perspicillata

Smooth-coated Otter

Bangladesh; Bhutan; Cambodia; China; India; Indonesia: Java, Kalimantan, Sumatra; Iraq; Laos; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Myanmar; Nepal; Pakistan; Thailand; Viet Nam

# Lutra provocax

Southern River Otter

Argentina: Chile

# Lutra sumatrana

Hairy-nosed Otter

Brunei; Cambodia; Indonesia: Bangka. Kalimantan, Sumatra; Laos?; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Singapore; Thailand; Viet Nam

#### Martes gwatkinsii

(M. flavigula gwatkinsii)

Nilgiri Marten India

#### K Melogale everetti

Kinabalu Ferret-badger

Malaysia: Sabah

#### Mustela africana

Tropical Weasel

Brazil; Colombia?; Ecuador, Peru

#### E Mustela felipei

Colombian Weasel

Colombia: Ecuador

E Mustela lutreola

European Mink

Belarus; Estonia; Finland (ex?); France; Georgia; Latvia; Lithuania; Poland (ex?); Romania; Russia; Spain

K Mustela lutreolina

Indonesian Mountain Weasel Indonesia: Java, Sumatra

E Mustela nigripes
Black-footed Ferret

[Reintroduced in USA]

K Mustela strigidorsa

Back-striped Weasel

Bhutan; China; India; Laos; Myanmar, Thailand; Viet Nam

K Mydaus marchei

Palawan Stink Badger

Philippines: Palawan, Calamian Islands

V Pteronura brasiliensis

Giant Otter

Argentina; Bolivia; Brazil; Colombia; Ecuador, French Guiana; Guyana; Paraguay; Peru; Suriname; Uruguay (ex?); Venezuela

# Family OTARIIDAE

V Arctocephalus philippii

Juan Fernandez Fur Seal Chile: Juan Fernandez Archipelago

V Arctocephalus townsendi

Guadalupe Fur Seal Mexico; USA

V Eumetopias jubatus

Steller's Sea Lion

Canada; Japan?; Russia; USA

R Neophoca cinerea

Australian Sea Lion

Australia

V Phocarctos hookeri

Hooker's Sea Lion

New Zealand: Aukland Islands

### Family PHOCIDAE

E Monachus monachus

Mediterranean Monk Seal

Albania; Algeria; Bulgaria; Cyprus (ex?); Greece; Italy: Sardinia (ex?); Lebanon (ex?); Libya; Mauritania; Morocco; Portugal: Madeira, Desertas Islands; Spain: Canary Islands (ex?), Chafarinas Islands; Syria (ex?); Tunisia: La Galite (ex?); Turkey; Western Sahara; Yugoslavia

E Monachus schauinslandii
Hawaiian Monk Seal

USA: Hawaiian Islands

V Phoca caspica

Caspian Seal

(Caspian Sea)

Azerbaijan; Iran; Kazakhstan; Russia;

Turkmenistan

#### Family PROCYONIDAE

K Bassaricyon beddardi

Brazil?; Guyana; Venezuela?

I Bassaricyon gabbii

Colombia; Costa Rica; Ecuador; Nicaragua;

anama

I Bassaricyon lasius

Costa Rica

I Bassaricyon pauli

Panama

V Bassariscus sumichrasti

Belize; Costa Rica; El Salvador; Guatemala; Honduras?; Mexico; Nicaragua; Panama

I Nasua nelsoni

(N. narica nelsoni)

Cozumel Island Coati

Mexico: Cozumel Island

K Nasuella olivacea

Colombia; Ecuador; Venezuela

I Procyon insularis

(P. lotor insularis)

Mexico: Tres Marias Is (Maria Madre, Maria

Magdalena)

I Procyon maynardi

(P. lotor maynardi)

Bahamas: Nassau

I Procyon minor

(P. lotor minor)

Guadeloupe

K Procyon pygmaeus

(P. lotor pygmaeus)

Cozumel Island Raccoon

Mexico: Cozumel Island

Family URSIDAE

E Ailuropoda melanoleuca

Giant Panda

China

V Ailurus fulgens

Lesser Panda

Bhutan; China; India; Laos; Myanmar, Nepal

#### Helarctos malayanus

(Ursus malayanus)

Sun Bear

Brunei; Cambodia; China; India; Indonesia: Kalimantan, Sumatra; Laos; Malaysia: Peninsular Malaysia, Sabah, Myanmar; Thailand; Viet Nam

#### V Melursus ursinus

(Ursus ursinus)

Sloth Bear

Bangladesh; Bhutan?; India; Nepal; Sri Lanka

#### $\mathbf{v}$ Selenarctos thibetanus

(Ursus thibetanus)

Asiatic Black Bear

Afghanistan; Bangladesh; Bhutan; Cambodia; China; India; Iran; Japan; Korea D.P.R; Korea Republic: Laos; Malaysia?: Peninsular Malaysia: Mongolia; Myanmar; Nepal; Pakistan; Russia; Taiwan; Thailand; Viet Nam

#### Tremarctos ornatus

Spectacled Bear

Argentina; Bolivia; Brazil; Colombia; Ecuador; Panama; Peru; Venezuela

#### Ursus maritimus

(Thalarctos maritimus)

Polar Bear

Canada; Greenland; Norway; Svalbard and Jan Mayen Islands; Russia; USA

#### Family VIVERRIDAE

#### 1 Chrotogale owstoni Owston's Palm Civet

China; Laos; Viet Nam

#### K Cryptoprocta ferox

Fossa

Madagascar

#### E Cynogale bennettii

(includes C. lowei)

Otter-civet

Brunei; Indonesia: Kalimantan, Sumatra: Malaysia: Peninsular Malaysia, Sabah. Sarawak; Singapore?; Thailand; Viet Nam

#### I Diplogale hosei

Hose's Palm Civet

Malaysia: Sabah, Sarawak

#### Eupleres goudotii

(includes E. major)

Falanouc

Madagascar

# Fossa fossa

(F. fossana)

Malagasy Civet

Madagascar

#### K Genetta abyssinica

Abyssinian Genet

Diibouti; Ethiopia; Somalia

#### Ε Genetta cristata

(G. servalina cristata)

Crested Genet

Cameroon; Nigeria

#### K Genetta johnstoni

Johnston's Genet

Côte d'Ivoire: Liberia: Guinea

#### Macrogalidia musschenbroekii R

Sulawesi Palm Civet

Indonesia: Sulawesi

#### K Mungos gambianus

Gambian Mongoose

Côte d'Ivoire; Gambia; Ghana; Niger, Nigeria; Senegal; Sierra Leone; Togo

# Paradoxurus ierdoni

Jerdon's Palm Civet

India

# Order CETACEA

# Family BALAENIDAE

# Balaena mysticetus

Bowhead Whale

(Arctic Ocean, Beaufort, Barents and Chukchi Seas; North Atlantic - arctic waters; North Pacific - arctic waters, Japan, Okhotsk and Bering Seas)

#### Eubalaena australis

(E. glacialis australis; sometimes included in Balaena)

Southern Right Whale

(Circumpolar in Southern Hemisphere from ca 20°S to 50°S)

#### E Eubalaena glacialis

(Balaena glacialis)

Northern Right Whale

(Northern temperate and sub-polar waters: North Atlantic from Florida to Greenland and from Spain to Svalbard; North Pacific from China Sea to Sea of Okhotsk and from California to Bering Sea, including Hawaiian Islands)

### Family BALAENOPTERIDAE

#### K Balaenoptera acutorostrata

Minke Whale

(Widespread in all oceans but rarer in the tropics; extends into polar pack ice; recorded from Baltic and Black Seas)

#### V Balaenoptera borealis

Sei Whale

(Widespread in most oceans and seas, favouring temperate oceanic waters)

#### K Balaenoptera edeni

Bryde's Whale

(Circum-equatorial in tropical and warm temperate waters between ca 40°N and 40°S)

#### E Balaenoptera musculus

Blue Whale

(Occurs in all major oceans, especially cold and temperate waters)

#### V Balaenoptera physalus

Fin Whale

(Occurs in all major oceans, extending to pack ice zones but rare in warmest waters at latitudes less than about 20°)

#### V Megaptera novaeangliae

Humpback Whale

(Found in all major oceans from Arctic to Antarctic, but absent from pack ice zones)

#### Family NEOBALAENIDAE

#### K Caperea marginata

Pygmy Right Whale

(Temperate waters of the Southern Hemisphere between ca 31°S and 52°S)

# Family DELPHINIDAE

#### K Cephalorhynchus commersonii

Commerson's Dolphin

(Coastal temperate waters off southern South America and some South Atlantic and southern Indian Ocean islands)

Argentina; Chile; Falkland Islands; French Southern and Antarctic Territories: Kerguelen Islands

#### K Cephalorhynchus eutropia

Black Dolphin

(Cold, inshore waters of Chile, between 33°S and 55°S) Chile

#### K Cephalorhynchus heavisidii

Heaviside's Dolphin

(Cold, inshore waters of Benguela current, South Atlantic)

Angola?; Namibia; South Africa

#### Cephalorhynchus hectori Ι

White-headed Dolphin, Hector's Dolphin (Coastal waters of New Zealand) New Zealand

#### K Delphinus delphis

(includes Delphinus tropicalis)

Common Dolphin

(Recorded from all warm temperate and tropical waters, including the Mediterranean and Black Seas)

#### Feresa attenuata K

(F. occulta)

Pygmy Killer Whale

(Recorded sporadically from warm temperate and tropical waters, including North and South Atlantic, Indian Ocean and North Pacific)

#### K Globicephala macrorhynchus

(G. sieboldii)

Short-finned Pilot Whale

(Warm temperate and tropical waters, including Atlantic, Pacific and Indian Oceans)

#### K Globicephala melas

(Globicephala melaena; includes G. edwardii)

Long-finned Pilot Whale

(Occurs in two separate populations, the southern being circumpolar in cool temperate waters of Atlantic, Pacific and Indian Oceans north of the Antarctic Convergence: the North Atlantic population extending from USA and the Mediterranean to the Barents Sea. Apparently absent from North Pacific)

#### K Grampus griseus

Risso's Dolphin

(Worldwide distribution in tropical and warm temperate waters)

#### K Lagenodelphis hosei

Fraser's Dolphin

(Circum-equatorial in oceanic tropical waters)

#### K Lagenorhynchus acutus

Atlantic White-sided Dolphin

(Northern North Atlantic, including North and Baltic Seas; vagrants further south)

# Lagenorhynchus albirostris

White-beaked Dolphin

(North Atlantic and western Arctic from the USA and Spain to Svalbard, including the Baltic, Davis Strait and Barents Sea)

#### Lagenorhynchus australis

Peale's Dolphin

(Cold, coastal waters of southern South America)

Argentina; Chile; Falkland Islands

# K Lagenorhynchus cruciger

Hourglass Dolphin

(Circumpolar in Antarctic and sub-Antarctic, recorded from high southern latitudes to the edge of the pack ice)

# K Lagenorhynchus obliquidens

Pacific White-sided Dolphin

(Temperate waters of the North Pacific)

#### K Lagenorhynchus obscurus

(includes L. superciliosus)

Dusky Dolphin

(Temperate and cold temperate circumpolar waters near land masses in the Southern Hemisphere)

Argentina; Chile; Falkland Islands; French Southern and Antarctic Territories: Kerguelen Islands; New Zealand: Campbell and Auckland Islands; Peru; South Africa

#### K Lissodelphis borealis

Northern Right Whale Dolphin

(Temperate waters of the North Pacific)

#### K Lissodelphis peronii

Southern Right Whale Dolphin

(Circumpolar in temperate waters of the Southern Hemisphere, extending to 19°S off Chile and to Indonesia)

#### K Orcaella brevirostris

Irrawaddy Dolphin

(Coastal waters from Bay of Bengal to South-east Asia and Australia, including major rivers - Ganges, Brahmaputra and Irrawaddy) Australia; Bangladesh; Brunei?; Cambodia; India; Indonesia: Java, Kalimantan, Sumatra; Laos?; Malaysia: Sabah, Sarawak; Myanmar; Papua New Guinea; Philippines?; Singapore?; Thailand; Viet Nam

#### K Orcinus orca

(includes O. glacialis)

Killer Whale

(Reported from all sea areas, especially in cooler regions; extending well into the pack ice zone)

### K Peponocephala electra

Melon-headed Whale

(Widespread scattered records from warm temperate and tropical seas)

#### K Pseudorca crassidens

False Killer Whale

(Widespread, mainly in warm waters but strandings as far north as the Baltic)

## K Sotalia fluviatilis

(includes S. brasiliensis, S. guianensis)

Tucuxi

(All major rivers in the Amazon system, extending to Central America)

Bolivia?; Brazil; Colombia; Ecuador; French Guiana; Guyana; Panama; Peru; Suriname; Trinidad and Tobago; Venezuela

#### K Sousa chinensis

(includes S. borneensis, S. lentiginosa, S. plumbea)

Indo-Pacific Hump-backed Dolphin

(Coastal and inshore waters of the Indian and western Pacific Occean, including Red Sea and Arabian Gulf to South-east Asia and south China coast; occurs in estuaries and occasionally lower reaches of rivers)

Australia; Bahrain; Bangladesh; Brunei; Cambodia; China; Djibouti; Egypt; Ethiopia; Hong Kong; India; Indonesia; Iran; Iraq; Israel; Kenya; Kuwait; Madagascar; Malaysia: Sarawak; Mozambique; Myanmar; Oman; Pakistan; Papua New Guinea; Philippines; Qatar; Saudi Arabia; Somalia; South Africa; Sri Lanka; Sudan; Taiwan; Tanzania; Thailand; United Arab Emirates; Viet Nam; Yemen

#### K Sousa teuszii

Atlantic Hump-backed Dolphin

(West coast of Africa, from Angola to Mauritania: enters rivers)

Angola?; Benin; Cameroon; Congo?; Côte d'Ivoire; Equatorial Guinea?; Gabon?; Gambia; Ghana; Guinea; Guinea-Bissau; Liberia; Mauritania; Nigeria; Senegal; Sierra Leone; Togo; Zaire?

# K Stenella attenuata

Pantropical Spotted Dolphin
(Widespread in warm deep waters)

# K Stenella clymene

Helmet Dolphin, Clymene Dolphin (Tropical and subtropical waters of North Atlantic)

#### K Stenella coeruleoalba

(includes S. styx)

Striped Dolphin

(Widespread in tropical, subtropical and warm temperate waters)

### K Stenella frontalis

(S. plagiodon, S. attenuata frontalis)

Atlantic Spotted Dolphin

(Tropical, subtropical and warm temperate Atlantic)

### K Stenella longirostris

(includes S. microps, S. roseiventris)

Long-snouted Dolphin, Spinner Dolphin

(Circum-equatorial in tropical and subtropical waters, occasionally in warm temperate waters)

#### K Steno bredanensis

Rough-toothed Dolphin

(Widespread in tropical and warm temperate ocean areas, including Red, Caribbean, Mediterranean and North Seas)

### K Tursiops truncatus

(includes T. aduncus, T. gilli, T. nuuanu)

Bottlenose Dolphin

(Known from all temperate and tropical marine areas)

# Family MONODONTIDAE

# K Delphinapterus leucas

White Whale, Beluga

(Circumpolar in Arctic and sub-Arctic with scattered records to France and Japan; often in estuaries)

Canada; Greenland; Norway: including Svalbard and Jan Mayen Islands; Russia; USA (excludes vagrants)

#### K Monodon monoceros

Narwhal

(Circumpolar and virtually confined to limits of Arctic pack ice; vagrants as far south as the United Kingdom)

Canada; Greenland; Iceland; Norway: including Svalbard and Jan Mayen Islands; Russia; USA (excludes vagrants)

#### Family PHOCOENIDAE

#### K Australophocaena dioptrica

(Phocoena dioptrica)

Spectacled Porpoise

(Coastal waters of southern South America and Southern Ocean islands)

Argentina; Australia: Macquarie Island; Chile; Falkland Islands: including South Georgia; French Southern and Antarctic Territories: Kergeulen Islands; New Zealand: Auckland Islands; Uruguay

#### K Neophocaena phocaenoides

Finless Porpoise

(Coastal and freshwater Indo-Pacific from China and Japan to the Gulf of Arabia, including South-East Asian archipelago) Bahrain; Bangladesh; Brunei?; Cambodia; China; Hong Kong?; India; Indonesia; Iran; Iraq; Japan; Korea D.P.R; Korea Republic; Kuwait; Malaysia: Sabah, Sarawak; Myanmar, Oman; Pakistan; Philippines; Qatar, Saudi Arabia; Singapore?; South Africa?; Sri Lanka; Taiwan; Thailand; United Arab Emirates; Viet Nam

## K Phocoena phocoena

(includes P. vomerina)

Common Porpoise, Harbour Porpoise

(Coastal waters of North Pacific, North Atlantic and Arctic Oceans, from Japan and California to Chukchi Sea, and from Baffin Island to west Africa, including Baltic, Mediterranean and Black Seas)

Belgium; Bulgaria; Canada; Cape Verde; China?; Denmark; Faeroe Islands; Finland; France; Germany; Georgia; Greenland; Iceland; Ireland; Japan; Korea D.P.R.; Korea Republic; Mauritania; Mexico; Morocco; Netherlands; Norway; Poland; Portugal: including Azores; Romania; Russia; Senegal; Spain; Sweden; Tunisia; Turkey; Ukraine; United Kingdom; USA

#### E Phocoena sinus

Vaquita

(Northern half of Gulf of California) Mexico

#### K Phocoena spinipinnis

Burmeister's Porpoise

(Coastal South America)

Argentina; Brazil; Chile; Peru; Uruguay

#### K Phocoenoides dalli

Dall's Porpoise

(North Pacific from Japan and Mexico to Bering Sea)

Canada; Japan; Korea D.P.R; Korea Republic; Mexico: Russia; USA

#### Family PHYSETERIDAE

### K Kogia breviceps

Pygmy Sperm Whale

(Recorded from nearly all temperate, subtropical and tropical waters)

## K Kogia simus

Dwarf Sperm Whale

(Recorded from nearly all temperate, subtropical and tropical waters)

# K Physeter catodon

(P. macrocephalus)

Sperm Whale

(Found in all major oceans, from Arctic to Antarctic, including semi land-locked seas such as Mediterranean)

### Family PLATANISTIDAE

#### V Inia geoffrensis

Boto, Amazon River Dolphin

(Found in all major rivers of the Orinoco and Amazon systems)

Bolivia; Brazil; Colombia; Ecuador, Guyana?; Peru; Venezuela

#### E Lipotes vexillifer

Baiji, Yangtse River Dolphin

(Only found in the Chiangjiang River of China, may occasionally enter other rivers during times of flood) China

# V Platanista gangetica

Ganges River Dolphin

(Ganges and Brahmaputra river systems) Bangladesh; Bhutan; India; Nepal

# E Platanista minor

(P. indi, P. gangetica minor)
Indus River Dolphin
(Indus River)

Pakistan

# K Pontoporia blainvillei

La Plata River Dolphin

(La Plata estuary and adjacent rivers and coasts)

Argentina; Brazil; Uruguay

#### Family ZIPHIIDAE

#### K Berardius arnuxii

Amoux's Beaked Whale

(Cool temperate sub-Antarctic and Antarctic waters)

#### K Berardius bairdii

Baird's Beaked Whale

(Apparently confined to deep waters of North Pacific)

### K Hyperoodon ampullatus

(H. rostratus)

Northern Bottlenose Whale

(Deep waters of the northern North Atlantic)

# K Hyperoodon planifrons

Southern Bottlenose Whale

(Entire Southern Ocean north to ca 30°S)

### K Indopacetus pacificus

(Mesoplodon pacificus)

Indo-Pacific Beaked Whale

(Probable Indo-Pacific distribution, known only from 2 skulls found on beaches in Australia and Somalia and a possible sighting in the Seychelles)

#### K Mesoplodon bidens

Sowerby's Beaked Whale

(Cold temperate waters of the North Atlantic, mostly around British Isles)

#### K Mesoplodon bowdoini

Splaytooth Beaked Whale, Andrews' Beaked Whale

(Temperate South Pacific and southern Indian Ocean)

#### K Mesoplodon carlhubbsi

(M. bowdoini carlhubbsi)

Arch-beaked Whale, Hubbs' Beaked Whale (Cold temperate North Pacific)

#### K Mesoplodon densirostris

Blainville's Beaked Whale

(Circum-equatorial; temperate and tropical waters)

# K Mesoplodon europaeus

Gervais' Beaked Whale

(North Atlantic, where population probably concentrated in south-west)

### K Mesoplodon ginkgodens

Ginkgo-toothed Beaked Whale

(Warm temperate and tropical Pacific and Indian Oceans)

#### K Mesoplodon gravi

Gray's Beaked Whale

(Circumpolar in Southern Hemisphere, south of 30°S, but mainly around New Zealand)

#### K Mesoplodon hectori

Hector's Beaked Whale

(Temperate latitudes of Southern Hemisphere and temperate eastern North Pacific)

#### K Mesoplodon layardii

Layard's Beaked Whale, Strap-toothed Whale (Circumpolar distribution in Southern Hemisphere between ca 30°S and Antarctic convergence)

#### K Mesoplodon mirus

True's Beaked Whale

(North Atlantic and temperate waters in Southern Hemisphere)

# K Mesoplodon peruvianus

Lesser Beaked Whale

(Eastern South Pacific and eastern North Pacific: cold temperate to tropical waters)

# K Mesoplodon stejnegeri

Steineger's Beaked Whale

(Cold temperate waters of the North Pacific)

# K Tasmacetus shepherdi

Shepherd's Beaked Whale

(Cooler waters of the Southern Hemisphere between 33°S and 50°S)

#### K Ziphius cavirostris

Cuvier's Beaked Whale

(Widespread in all major oceans, but rarely found in polar regions)

#### Order SIRENIA

## Family DUGONGIDAE

## V Dugong dugon

Dugong

(Shallow tropical and subtropical coastal and inland waters of the Indian and western Pacific Oceans from east Africa and the Red Sea to Vanuatu)

Australia; Bahrain; Bangladesh; Brunei?; Cambodia; China; Comoros?; Djibouti; Egypt; Ethiopia; Federated States of Micronesia: Yap; Guam; India; Indonesia; Iran; Iraq; Israel; Japan: Ryukyu Islands; Jordan; Kenya; Kuwait; Madagascar; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Mauritius; Mozambique; Myanmar; New Caledonia; Oman; Pakistan; Palau; Papua New Guinea; Philippines; Saudi Arabia; Singapore; Solomon Islands; Somalia; South Africa; Sri Lanka; Sudan; Taiwan; Tanzania; Thailand; United Arab Emirates; Vanuatu; Viet Nam; Yemen

### Family TRICHECHIDAE

#### V Trichechus inunguis

Amazonian Manatee

(Major rivers of the Amazon drainage basin) Brazil; Colombia; Ecuador; Peru; Venezuela

#### V Trichechus manatus

Caribbean Manatee

(Tropical and subtropical coastal waters and rivers of the Caribbean and Atlantic regions of the Americas)

Bahamas; Belize; Brazil; Colombia; Costa Rica; Cuba; Dominican Republic; French Guiana; Guatemala; Guyana; Haiti; Honduras; Jamaica; Mexico; Nicaragua; Panama; Puerto Rico; Suriname; Trinidad and Tobago; USA; Venezuela

#### V Trichechus senegalensis

African Manatee

(River systems of West Africa)

Angola; Benin (ex?); Cameroon; Chad; Congo; Côte d'Ivoire; Equatorial Guinea; Gabon; Gambia; Ghana; Guinea?; Guinea-Bissau?; Liberia; Mali; Mauritania; Niger; Nigeria; Senegal; Sierra Leone; Togo; Zaire

#### Order PROBOSCIDEA

### Family ELEPHANTIDAE

#### E Elephas maximus

Indian Elephant

Bangladesh; Bhutan; Brunei; Cambodia; China; India; Indonesia: Kalimantan, Sumatra; Laos; Malaysia: Peninsular Malaysia, Sabah; Myanmar; Nepal; Sri Lanka; Thailand; Viet Nam

# V Loxodonta africana

African Elephant

Angola; Benin; Botswana; Burkina Faso; Cameroon; Central African Republic; Chad; Congo; Côte d'Ivoire; Equatorial Guinea; Ethiopia; Gabon; Ghana; Guinea; Kenya; Liberia; Malawi; Mali; Mauritania; Mozambique; Namibia; Niger; Nigeria; Rwanda; Senegal; Sierra Leone; Somalia; South Africa; Sudan; Tanzania; Togo; Uganda; Zaire; Zambia; Zimbabwe

#### Order PERISSODACTYLA

### Family EQUIDAE

# E Equus africanus

(sometimes given the same name as the domestic donkey or ass *E. asinus*)

African Wild Ass

Ethiopia; Somalia

(Free-living animals of uncertain pedigree occur elsewhere in northern Africa)

# E Equus grevyi

Grevv's Zebra

Ethiopia; Kenya

## V Equus hemionus

Asian Wild Ass (Kulan, Khur, Onager, Dziggetai)

China; India; Iran; Kazakhstan; Mongolia; Turkmenistan

[Reintroduced in: Israel; Uzbekistan]

#### V Equus zebra

Mountain Zebra

Angola; Namibia; South Africa

#### Family TAPIRIDAE

### V Tapirus bairdii

Central American Tapir

Belize; Colombia; Costa Rica; Ecuador, Guatemala; Honduras; Mexico (ex?); Nicaragua; Panama

#### E Tapirus indicus

Malayan Tapir

Indonesia: Sumatra; Laos; Malaysia: Peninsular Malaysia; Myanmar; Thailand; Viet Nam

#### E Tapirus pinchaque

(T. roulini)

Mountain Tapir

Colombia; Ecuador; Peru; Venezuela

### Family RHINOCEROTIDAE

#### V Ceratotherium simum

White Rhinoceros

South Africa; Zaire

[Reintroduced in: Botswana; Kenya; Namibia; Swaziland; Zambia (ex?); Zimbabwe]

#### E Dicerorhinus sumatrensis

(Didermocerus sumatrensis)

Sumatran Rhinoceros

Cambodia (ex?); India (ex?); Indonesia: Kalimantan, Sumatra; Laos (ex?); Malaysia: Peninsular Malaysia, Sabah, Sarawak; Myanmar; Thailand; Viet Nam

#### E Diceros bicornis

Black Rhinoceros

Angola; Botswana; Cameroon; Central African Republic (ex?); Chad (ex?); Congo (ex?); Ethiopia (ex?); Kenya; Malawi (ex?); Mozambique; Namibia; Nigeria (ex?); Rwanda; South Africa; Sudan (ex?); Swaziland; Tanzania: Zambia: Zimbabwe

#### E Rhinoceros sondaicus

Javan Rhinoceros

Cambodia; Indonesia: Java; Laos; Myanmar (ex?); Thailand (ex?); Viet Nam

#### E Rhinoceros unicornis

Great Indian Rhinoceros

Bhutan; India; Nepal

#### Order HYRACOIDEA

### Family PROCAVIIDAE

# I Dendrohyrax validus

Eastern Tree Hyrax

Kenya; Tanzania: including Pemba Island, Zanzibar

### Order ARTIODACTYLA

# Family SUIDAE

#### V Babyrousa babyrussa

Babirusa

Indonesia: Buru, Sula Islands, Sulawesi, Togian Islands

# E Sus cebifrons

(Sus barbatus cebifrons)

Visayan Warty Pig

Philippines: Cebu and Negros Islands

## E Sus salvanius

Pygmy Hog

Bhutan (ex?); India; Nepal (ex?)

#### V Sus verrucosus

Javan Warty Pig

Indonesia: Bawean Island, Java

# Family TAYASSUIDAE

# E Catagonus wagneri

Chacoan Peccary

Argentina; Bolivia; Paraguay

# Family HIPPOPOTAMIDAE

#### V Hexaprotodon liberiensis

(Choeropsis liberiensis)

Pygmy Hippopotamus

Côte d'Ivoire; Guinea; Guinea-Bissau?; Liberia; Sierra Leone

# Family CAMELIDAE

## V Camelus bactrianus

(C. ferus)

Wild Bactrian Camel China; Mongolia

# V Vicugna vicugna

Vicuña

Argentina; Bolivia; Chile; Peru,

## Family MOSCHIDAE

#### E Moschus moschiferus

(M. sibiricus, includes M. anhueiensis)

Siberian Musk Deer

China; Korea D.P.R; Korea Republic; Mongolia; Russia

# Family CERVIDAE

# E Axis calamianensis

(Axis porcinus calamianensis, sometimes included in Cervus)
Calamian Hog Deer

Philippines: Calamian Islands

#### E Axis kuhlii

(Axis porcinus kuhli, sometimes included in Cervus)

Kuhl's Hog Deer, Bawean Deer Indonesia: Bawean Island

#### V Blastocerus dichotomus

Marsh Deer

Argentina; Bolivia; Brazil; Paraguay; Peru

V Cervus albirostris
Thorold's Deer
China

E Cervus alfredi
(C. unicolor alfredi)
Visayan Spotted Deer
Philippines: Visayan Islands

E Cervus duvauceli Swamp Deer India; Nepal

V Cervus eldii
Thamin
Cambodia; China (ex?); India; Laos;
Myanmar, Thailand; Viet Nam

R Cervus mariannus
Philippine Brown Deer
Philippines

E Dama mesopotamica
(Dama dama mesopotamica, sometimes included in Cervus)
Persian Fallow Deer
Iran; Iraq (ex?)

E Elaphurus davidianus
Père David's Deer
[Captive populations only, reintroduction in progress in China]

V Hippocamelus antisensis
North Andean Huemul
Argentina; Bolivia; Chile; Peru

E Hippocamelus bisulcus South Andean Huemul Argentina; Chile

V Hydropotes inermis
Chinese Water Deer
China; Korea D.P.R; Korea Republic
[France; United Kingdom]

I Mazama chunyi Chunyi Bolivia; Peru

V Muntiacus crinifrons
Black Muntjac
China

E Muntiacus feae
Fea's Muntjac
China; Myanmar: Thailand

I Muntiacus gongshanensis Gongshan Muntjac China; Myanmar? K Ozotoceros bezoarticus
 Pampas Deer
 Argentina; Bolivia; Brazil; Paraguay; Uruguay

I Pudu mephistophiles Northern Pudu Colombia; Ecuador; Peru

K Pudu puda Southern Pudu Argentina; Chile

Family BOVIDAE

E Addax nasomaculatus
Addax
Algeria (ex?); Chad; Egypt (ex?); Libya (ex?);
Mali; Mauritania; Niger; Sudan (ex?)

V Ammodorcas clarkei Dibatag Ethiopia; Somalia

Ammotragus lervia
Aoudad
Algeria; Chad; Libya; Mali; Mauritania (ex?);
Morocco (ex?); Niger, Sudan; Tunisia (ex?)

V Antilope cervicapra
Blackbuck
India, Nepal, Pakistan
[Argentina; USA]

V Bison bonasus
(B. bison bonasus)
European Bison

[Reintroduced in: Belarus; Lithuania; Moldova; Poland; Romania; Russia; Ukraine]

V Bos gaurus
(alternatively given the same name as the domestic Gayal or Mithan B. frontalis)
Gaur
Bangladesh; Bhutan; Cambodia; China; India; Laos; Malaysia; Peninsular Malaysia; Myanmar, Nepal; Thailand; Viet Nam

V Bos javanicus (B. banteng) Banteng

Bangladesh (ex?); Cambodia?; Indonesia: Bali, Java, Kalimantan; Laos; Malaysia: Peninsular Malaysia (ex?), Sabah; Myanmar; Thailand; Viet Nam

E Bos mutus
(alternatively given the same name as the domestic Yak B. grunniens)
Wild Yak
Afghanistan?; Bhutan?; China; India; Nepal

E Bos sauveli

(Novibos sauveli)

Kouprey

Cambodia; Laos; Thailand (ex?); Viet Nam

E Bubalus arnee

(alternatively given the same name as the domestic buffalo B. bubalus)

Wild Water Buffalo

Bhutan; India; Nepal; Thailand

(Free-living animals of uncertain pedigree occur in adjacent countries)

E Bubalus depressicornis

(Anoa depressicornis)

Lowland Anoa

Indonesia: Sulawesi

E Bubalus mindorensis

(Anoa mindorensis)

**Tamaraw** 

Philippines: Mindoro

E Bubalus quarlesi

(Anoa quarlesi)

Mountain Anoa

Indonesia: Sulawesi, Buton

R Capra caucasica

(C. ibex caucasica)

Kuban, West Caucasian Tur

Georgia; Russia

R Capra cylindricornis

Daghestan Tur, East Caucasian Tur Azerbaijan?; Georgia; Russia

E Capra falconeri

Markhor

Afghanistan; India; Pakistan; Tajikistan;

Turkmenistan; Uzbekistan

I Capra nubiana

(C. ibex nubiana)

Nubian Ibex

Egypt; Ethiopia; Israel; Jordan; Oman; Saudi

Arabia; Sudan; Yemen

E Capra walia

(C. ibex walia)

Walia Ibex

Ethiopia

I Capricornis sumatraensis

(Naemorhedus sumatraensis)

Mainland Serow

Bangladesh; Bhutan; Cambodia; China; India; Indonesia; Sumatra; Laos; Malaysia; Myanmar;

Nepal; Thailand; Viet Nam

V Capricornis swinhoei

(Naemorhedus swinhoei)

Formosan Serow

Taiwan

V Cephalophus adersi

Aders' Duiker

Kenya; Tanzania: Zanzibar

E Cephalophus jentinki

Jentink's Duiker

Côte d'Ivoire: Liberia: Sierra Leone

V Cepahlophus ogilbyi

Ogilby's Duiker

Cameroon; Congo?; Côte d'Ivoire; Equatorial Guinea: Bioko; Gabon; Ghana; Guinea?;

Liberia; Nigeria; Sierra Leone

V Cephalophus spadix Abbott's Duiker

Tanzania

V Cephalophus zebra

Zebra Duiker

Côte d'Ivoire: Liberia: Sierra Leone

V Connochaetes gnou

Black Wildebeest

Lesotho: South Africa: Swaziland

E Damaliscus hunteri

Hirola

Kenya; Somalia

K Dorcatragus megalotis

Beira Antelope

Djibouti?; Ethiopia; Somalia

V Gazella bennetti

Chinkara

Afghanistan?; India; Iran; Pakistan

E Gazella cuvieri

Cuvier's Gazelle

Algeria; Morocco; Tunisia

E Gazella dama

Dama Gazelle

Algeria (ex?); Burkina Faso; Chad; Mali;

Niger; Sudan

V Gazella dorcas

Dorcas Gazelle

Algeria; Burkina Faso; Chad; Djibouti; Egypt; Eritrea; Ethiopia; Israel; Jordan?; Libya; Mali; Mauritania; Morocco; Niger, Nigeria; Saudi Arabia?; Senegal; Somalia; Sudan; Tunisia; Western Sahara V Gazella gazella

Mountain Gazelle

Israel: Jordan: Lebanon?: Oman: Saudi Arabia; Syria?: Yemen

E Gazella leptoceros

Slender-horned Gazelle

Algeria; Chad; Egypt; Libya; Mauritania?; Niger; Sudan; Tunisia; Western Sahara?

V Gazella rufifrons

Red-fronted Gazelle

Burkina Faso; Cameroon; Central African Republic; Chad; Eritrea; Ethiopia; Gambia?; Ghana?; Mali; Mauritania; Niger; Nigeria; Senegal; Sudan; Togo

Gazella soemmerringii

Soemmerring's Gazelle

Djibouti; Eritrea; Ethiopia; Kenya; Somalia; Sudan

V Gazella spekei

Speke's Gazelle Ethiopia; Somalia

K Hemitragus jemlahicus

> Himalayan Tahr China; India; Nepal

Hemitragus hylocrius

Nilgiri Tahr India

Hemitragus jayakari

Arabian Tahr

Oman; United Arab Emirates?: Abu Dhabi

Kobus leche

Lechwe

Angola; Botswana; Namibia; Zaire; Zambia [South Africa]

V Kobus megaceros

Nile Lechwe

Ethiopia; Sudan

K Madoqua piacentinii

Silver Dikdik

Somalia

Ι Naemorhedus caudatus

Long-tailed Goral

China; Korea D.P.R; Korea Republic; Laos: Russia; Thailand

E Oryx dammah

(O. tao)

Scimitar-horned Oryx

Chad

E Orvx leucorvx

Arabian Oryx

[Reintroduced in Oman]

K Procapra przewalskii

Przewalski's Gazelle

China

E Pseudois schaeferi

> (P. nayaur schaeferi) Dwarf Blue Sheep

China

E Pseudoryx nghetinhensis

Vu Ouang Ox

Laos?: Viet Nam

V Tetracerus quadricornis

Four-horned Antelope

India; Nepal

E Tragelaphus buxtoni

Mountain Nyala

Ethiopia

Tragelaphus derbianus

(Taurotragus derbianus)

Giant Eland

Cameroon; Central African Republic; Chad?;

Guinea?; Guinea Bissau; Mali?; Nigeria?;

Senegal; Sudan; Uganda?; Zaire

# Order RODENTIA

Family SCIURIDAE

Cynomys mexicanus

Mexican Prairie Dog

Mexico

V Cynomys parvidens

Utah Prairie Dog

USA

K Epixerus ebii

Côte d'Ivoire; Ghana; Liberia; Sierra Leone

Funisciurus carruthersi

Carruther's Mountain Squirrel

Burundi; Rwanda; Uganda; Zaire?

Marmota menzbieri

Menzbier's Marmot

Kazakhstan; Tajikistan: Turkmenistan:

Uzbekistan

E Marmota vancouverensis

Vancouver Island Marmot

Canada: Vancouver Island

Myosciurus pumilio

African Pygmy Squirrel

Cameroon; Equatorial Guinea: Bioko; Gabon;

Nigeria

- R Paraxerus vexillarius Tanzania
- R Pteromys momonga Small Japanese Flying-squirrel Japan
- K Syntheosciurus brochus Mountain Squirrel Costa Rica; Panama

# Family GEOMYIDAE

I Zygogeomys trichopus Michoacan Pocket Gopher Mexico

#### Family HETEROMYIDAE

- R Dipodomys elator Texas Kangaroo-rat USA
- E Dipodomys gravipes
  San Quintin Kangaroo Rat
  Mexico
- I Dipodomys ingens Giant Kangaroo Rat USA
- E Dipodomys stephensi Stephens' Kangaroo Rat USA
- V Perognathus alticola (Perognathus parvus alticola) White-eared Pocket Mouse USA

#### Family DIPODIDAE

V Allactaga tetradactyla Egypt; Libya

### Family MURIDAE

- I Abrawayaomys ruschi Brazil
- R Aethomys silindensis
  Selinda Veld Rat
  Mozambique?; Zimbabwe
- K Ammodillus imbellis Ethiopia; Somalia
- K Anonymomys mindorensis
   Mindoro Climbing Rat
   Philippines: Mindoro
- R Archboldomys luzonensis
  Mt Isarog Shrew-mouse
  Philippines: Luzon

- I Batomys granti
  Luzon Forest Rat
  Philippines: Luzon
- V Beamys hindei Lesser Hamster-rat Kenya; Tanzania
- V Beamys major
  (B. hindei major)
  Greater Hamster-rat
  Malawi: Tanzania: Zambia
- R Chrotomys gonzalesi
  Mt Isarog Striped Rat
  Philippines: Luzon
- K Crateromys australis
  Dinagat Island Cloud Rat
  Philippines: Dinagat Island
- R Crateromys schadenbergi Giant Bushy-tailed Cloud Rat Philippines: Luzon
- K Crateromys sp.Panay Bushy-tailed Cloud Rat Philippines: Panay
- R Delanymys brooksi
  Delany's Mouse
  Rwanda; Uganda; Zaire
- R Dendromus kahuziensis Zaire
- R Dendroprionomys rousseloti Congo
- V Diplothrix legatus Ryukyu Long-tailed Giant Rat Japan: Nasei-shoto
- K Eliurus minor Madagascar
- K Gerbillus acticola Somalia
- K Gerbillus maghrebi (Dipodillus maghrebi) Morocco
- K Gerbillus mauritaniae Mauritania
- K Gerbillus muriculus (G. nanus muriculus) Sudan
- K Gerbillus nancillus Sudan
- K Gerbillus rosalinda Sudan

R	Gymnuromys roberti Madagascar	K	Microdillus peeli Somalia
R	Hylomyscus baeri Côte d'Ivoire; Ghana	R	Microtus breweri (M. pennsylvanicus breweri) Beach Vole USA: Muskeget Island
K	Hylomyscus fumosus Cameroon; Central African Republic; Gabon		
K	Hylomyscus parvus Cameroon; Congo; Gabon	V	Muriculus imberbis Ethiopia
K	Hypogeomys antimena Madagascar	K	Myomys ruppi (Praomys ruppi) Ethiopia
E	Juscelinomys candango Brazil	E	Neotoma anthonyi Anthony's Woodrat
I	Kunsia tomentosus Bolivia; Brazil	_	Mexico: Todos Santos Island
K	Leggadina lakedownensis Lakeland Downs Mouse Australia	Е	Neotoma bunkeri (N. lepida bunkeri) Bunker's Woodrat Mexico
R	Lemniscomys mittendorfi (L. striatus mittendorfi) Cameroon	Е	Neotoma martinensis San Martin Island Woodrat Mexico: San Martin Island
R	Leporillus conditor Greater Stick-nest Rat Australia: Franklin Island	K	Notomys aquilo (includes N. carpentarius) Northern Hopping-mouse Australia
K	Lophuromys cinereus Zaire	V	Notomys fuscus
R	Lophuromys medicaudatus Rwanda; Zaire		Dusky Hopping-mouse Australia
R	Lophuromys melanonyx Ethiopia	V	Pelomys hopkinsi Kenya; Rwanda; Uganda
R	Lophuromys rahmi Rwanda; Zaire	V	Pelomys isseli Uganda: Bugala, Bunyama, Kome Islands (Lake Victoria)
K	Macrotarsomys ingens Madagascar	Е	Phaenomys ferrugineus Brazil
K	Macruromys elegans Western Small-toothed Rat Indonesia: Irian Jaya	R Phaulomys andersoni (P. imaizumii, P. niigatae, sometimes referred to	
K	Malacomys verschureni Zaire		Eothenomys or Clethrionomys) Wakayama Red-backed Vole Japan: Honshu
K	Mastomys pernanus Kenya; Rwanda; Tanzania	R	Phloeomys cumingi Southern Giant Slender-tailed Cloud Rat Philippines Praomys hartwigi
R	Megadendromus nikolausi Ethiopia	R	
K	Melomys albidens White toothed Melomys		Cameroon; Nigeria
	White-toothed Melomys Indonesia: Irian Jaya	R	Prionomys batesi Dollman's Tree Mouse Cameroon; Central African Republic

R Pseudomys fumeus Smoky Mouse Australia

R Pseudomys occidentalis
Western Mouse
Australia

R Pseudomys oralis
Hastings River Mouse
Australia

I Pseudomys pilligaensis
Pilliga Mouse
Australia

R Pseudomys praeconis Shark Bay Mouse Australia

V Pseudomys shortridgei Heath Rat Australia

R Rattus giluwensis Giluwe Rat Papua New Guinea

K Rattus tawitawiensis
Tawitawi Island Rat
Philippines: Tawitawi Island

E Reithrodontomys raviventris Saltmarsh Harvest Mouse USA

E Rhagomys rufescens Brazil

R Rhynchomys isarogensis Mt Isarog Shrew-rat Philippines: Luzon

E Solomys ponceleti
Poncelet's Giant Rat
Papua New Guinea: Bougainville

R Steatomys jacksoni Ghana; Nigeria

K Thamnomys venustus Rwanda; Uganda; Zaire

V Tokudaia muenninki (T. osimensis muenninki) Japan: Nansei-shoto (Okinawa)

V Tokudaia osimensis Japan: Nansei-shoto (Amami-oshima)

I Wilfredomys oenax Brazil; Uruguay R Xenuromys barbatus
Rock-dwelling Rat
Indonesia: Irian Jaya; Papua New Guinea

R Xeromys myoides
False Water-rat
Australia

R Zelotomys woosnami
Botswana; Namibia; South Africa

E Zyzomys pedunculatus
Central Rock-rat
Australia

Family ANOMALURIDAE

K Zenkerella insignis
 Flightless Scaly-tailed Squirrel
 Cameroon; Central African Republic;
 Equatorial Guinea; Gabon

Family CTENODACTYLIDAE

K Felovia vae Felou Gundi Mali; Mauritania; Senegal

Family MYOXIDAE

R Glirulus japonicus Japanese Dormouse Japan

Family BATHYERGIDAE

V Bathyergus janetta Namibia: South Africa

K Cryptomys zechi Ghana; Togo

Family ERETHIZONTIDAE

V Chaetomys subspinosus Thin-spined Porcupine Brazil

Family CHINCHILLIDAE

I Chinchilla brevicaudata
Short-tailed Chinchilla
Argentina; Bolivia; Chile; Peru (ex?)

I Chinchilla lanigera
Long-tailed Chinchilla
Argentina?; Chile

Family DINOMYIDAE

E Dinomys branickii
 Pacarana
 Bolivia; Brazil; Colombia; Ecuador; Peru;
 Venezuela

#### Family OCTODONTIDAE

V Octomys barrerae (Tympanoctomys barrerae) Red Vizcacha Rat Argentina

#### Family CAPROMYIDAE

E Capromys angelcabrerai (Mesocapromys angelcabrerai) Cabrera's Hutia Cuba: Cay Ana Maria

E Capromys auritus (Mesocapromys auritus) Large-eared Hutia Cuba: Cay Fragoso

E Capromys garridoi
(Mysateles garridoi)
Garrido's Hutia
Cuba: Canarreos Archipelago

I Capromys gundlachi (Mysateles gundlachi) Chapman's Prehensile-tailed Hutia

Cuba: Isle de Juventud

Capromys melanurus
(Mysateles melanurus)

Bushy-tailed Hutia Cuba

R

I Capromys meridionalis
(Mysateles meridionalis)
Isla de la Juventud Tree Hutia
Cuba; Isle de Juventud

E Capromys nanus (Mesocapromys nanus) Dwarf Hutia Cuba

E Capromys sanfelipensis
(Mesocapromys sanfelipensis)
Little Earth Hutia
Cuba

I Geocapromys brownii
(includes G. thoracatus, sometimes included in
Capromys)
Jamaican Hutia
Jamaica

R Geocapromys ingrahami (Capromys ingrahami) Bahamian Hutia Bahamas: Plana Keys R Plagiodontia aedium (includes P. hylaeum) Hispaniolan Hutia Dominican Republic; Haiti

## Order LAGOMORPHA

# Family OCHOTONIDAE

K Ochotona forresti Forrest's Pika Bhutan, China, India, Myanmar

I Ochotona gaoligongensis Gaoligong Pika China

I Ochotona iliensis Ili Pika China

V Ochotona koslowi Kozlov's Pika China

I Ochotona muliensis Muli Pika China

I Ochotona nubrica Nubra Pika China, India, Nepal

V Ochotona pusilla Steppe Pika, Little Pika Russia

I Ochotona thomasi Thomas' Pika China

## Family LEPORIDAE

V Brachylagus idahoensis Pygmy Rabbit USA

E Bunolagus monticularis
Riverine Rabbit
South Africa

E Caprolagus hispidus Hispid Hare Bangladesh; India; Nepal

I Lepus callotis
White-sided Jackrabbit
Mexico, USA

E Lepus flavigularis
Tehuantepec Jackrabbit
Mexico

- K Lepus hainanus

  (L. pequensis hainanus)

  Hainan Hare

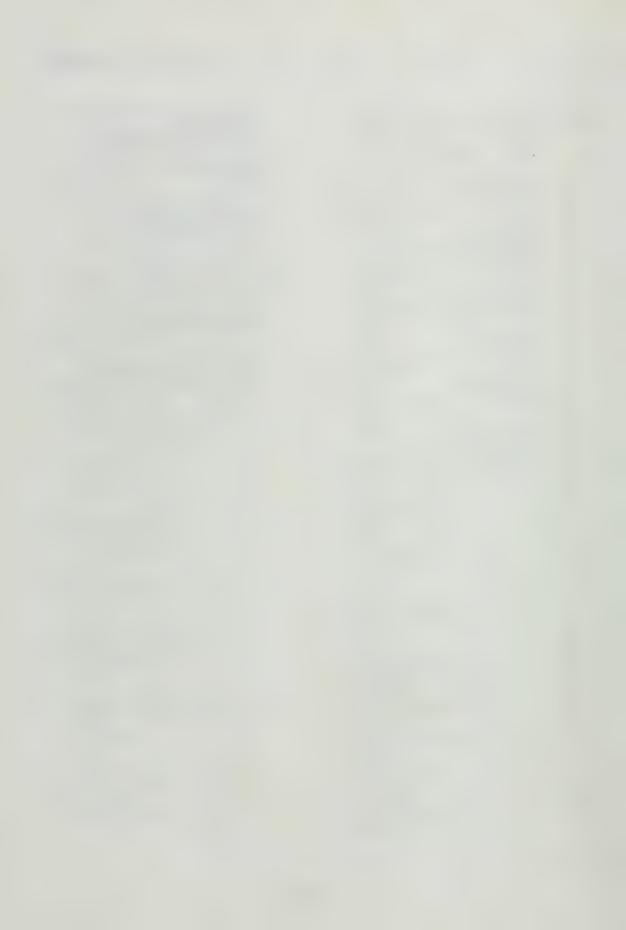
  China
- R Lepus insularis
  Black Jackrabbit
  Mexico
- K Lepus othus
  (Lepus timidus othus)
  Alaskan Hare
  USA: Alaska
- E Nesolagus netscheri Sumatran Rabbit Indonesia: Sumatra
- E Pentalagus furnessi Amami Rabbit Japan
- E Romerolagus diazi Volcano Rabbit Mexico
- K Sylvilagus dicei
  (S. brasiliensis dicei)
  Dice's Cottontail
  Costa Rica; Panama

- E Sylvilagus graysoni
  Tres Marias Rabbit
  Mexico: Tres Marias Islands
- E Sylvilagus insonus Omilteme Rabbit Mexico
- I Sylvilagus mansuetus
  (Sylvilagus bachmani mansuetus)
  San Jose Brush Rabbit
  Mexico

# Order MACROSCELIDEA

# Family MACROSCELIDIDAE

- V Rhynchocyon chrysopygus Golden-rumped Elephant-shrew Kenya
- R Rhynchocyon petersi
  Black-and-rufous Elephant-shrew
  Kenya; Tanzania: including Pemba Island,
  Zanzibar



#### Class AVES

### Order APTERYGIFORMES

# Family APTERYGIDAE

V Apteryx owenii
Little Spotted Kiwi
New Zealand

#### Order TINAMIFORMES

### Family TINAMIDAE

I Crypturellus kerriae Choco Tinamou Colombia; Panama

E/Ex Nothoprocta kalinowskii Kalinowski's Tinamou Peru

V Nothoprocta taczanowskii Taczanowski's Tinamou Peru

I Nothura minor Lesser Nothura Brazil

I Taoniscus nanus
Dwarf Tinamou
Argentina (ex?); Brazil

K Tinamus osgoodi
Black Tinamou
Colombia; Peru

#### Order SPHENISCIFORMES

# Family SPHENISCIDAE

V Megadyptes antipodes
Yellow-eyed Penguin
New Zealand: Auckland Islands, Campbell
Island, South Island, Stewart Island

K Spheniscus demersus
Jackass Penguin
Namibia; South Africa. \* Angola;
Mozambique

### Order PODICIPEDIFORMES

#### Family PODICIPEDIDAE

E/Ex *Podiceps andinus*Colombian Grebe
Colombia

E Podiceps taczanowskii
Puna Grebe
Peru

K Tachybaptus pelzelnii Madagascar Grebe Madagascar

E Tachybaptus rufolavatus
Alaotra Grebe
Madagascar

# Order PROCELLARIIFORMES

# Family DIOMEDEIDAE

E Diomedea albatrus
 Short-tailed Albatross
 Japan: Izu Islands. \* North Pacific inc. China;
 USA: Hawaiian Islands; Russia; Taiwan

E Diomedea amsterdamensis

Amsterdam Island Albatross

French Southern and Antarctic Territories:

Amsterdam Island

# Family PROCELLARIIDAE

E Procellaria parkinsoni
 Black Petrel
 New Zealand. \* South Pacific north to Costa
 Rica; Ecuador; Peru

V Procellaria westlandica
Westland Petrel
New Zealand. \* Australia

E Pterodroma aterrima
(Pseudobulweria aterrima)
Mascarene Petrel
Réunion

E Pterodroma axillaris
Chatham Islands Petrel
New Zealand: Chatham Islands

I Pterodroma becki
(Pterodroma rostrata becki)
Beck's Petrel
Papua New Guinea (ex?)?; Solomon Islands
(ex?)?

E Pterodroma cahow Bermuda Petrel Bermuda

R Pterodroma cookii
Cook's Petrel
New Zealand. \* seas off South America;
Chile; Peru

V Pterodroma defilippiana
Defilippe's Petrel
Chile: Desventuradas Islands; Juan Fernández
Islands

# R Pterodroma feae

Cape Verde Petrel

Cape Verde; Portugal: Madeira. \* Tropical and subtropical Atlantic

#### I Pterodroma hasitata

Black-capped Petrel

Cuba; Dominican Republic; Haiti. \* Caribbean and western North Atlantic

#### E Pterodroma madeira

Madeira Petrel

Portugal: Madeira

### E Pterodroma magentae

Magenta Petrel

New Zealand: Chatham Islands. \* South Pacific

# I Pterodroma macgillivrayi

(Pseudobulweria macgillivrayi)

MacGillivray's Petrel Fiji: Gau Island

#### E Pterodroma phaeopygia

(P. p. phaeopygia)

Galapagos Petrel

Ecuador: Galapagos Islands. \* Chile; Colombia: Malpelo Island; Costa Rica; Ecuador, French Polynesia: Clipperton Island; Mexico; Panama; Peru

#### V Pterodroma pycrofti

Pycroft's Petrel

New Zealand

#### E Pterodroma sandwichensis

(P. phaeopygia sandwichensis)

Hawaiian Petrel

USA: Hawaiian Islands (Hawaii, Kauai?, Lanai, Maui, Molokai). \* French Polynesia?: Marquesas Islands; Kiribati: Line Islands

#### I Puffinus auricularis

Townsend's Shearwater

Mexico: Revillagigedos Islands

#### V/R Puffinus creatopus

Pink-footed Shearwater

Chile: Isla Mocha, Juan Fernández Islands. \* Cocos (Keeling) Islands; Costa Rica; Ecuador; Peru; USA

#### I Puffinus heinrothi

Heinroth's Shearwater

Papua New Guinea: Bougainville, New Britain

#### Family HYDROBATIDAE

### E/Ex Oceanodroma macrodactyla

Guadalupe Storm-Petrel

Mexico: Guadalupe Island

### K Oceanodroma tristrami

Tristram's Storm-Petrel

USA: Hawaiian Islands; Japan: Izu Islands, Kazan-retto (Volcano Islands)

#### Family PELECANOIDIDAE

# V Pelecanoides garnotii Peruvian Diving-Petrel

Chile: Peru

#### Order PELECANIFORMES

#### Family PELECANIDAE

# V Pelecanus crispus

Dalmatian Pelican

Albania; Armenia; Azerbaijan; Bulgaria; China; Greece; Iran; Kazakhstan; Mongolia; Romania; Russia; Turkey; Turkmenistan; Ukraine; Uzbekistan; Yugoslavia. \* Afghanistan; Bangladesh; Egypt; Hong Kong; India; Iraq; Lebanon; Pakistan; Syria

# I Pelecanus philippensis

Spot-billed Pelican

India; Sri Lanka. \* Bangladesh; Cambodia; China; Indonesia: Java, Sumatra; Laos; Malaysia; Peninsular Malaysia; Myanmar; Nepal; Thailand; Viet Nam

### Family SULIDAE

# E Papasula abbotti

(Sula abbotti)

Abbott's Booby

Christmas Island; Costa Rica?: Cocos (Keeling) Islands. \* Indonesia: Java

# Family PHALACROCORACIDAE

### R Phalacrocorax carunculatus

Rough-faced Shag

New Zealand: Cook Strait

### R Phalacrocorax chalconotus

Bronze Shag

(P. carunculatus chalconotus)

New Zealand: South Island, Stewart Island

# R Phalacrocorax harrisi

(Nannopterum harrisi)

Flightless Cormorant

Ecuador: Galapagos Islands: Fernandina, Isabela

# R Phalacrocorax onslowi

(P. carunculatus onslowi)

Chatham Islands Shag

New Zealand: Chatham Islands

## K Phalacrocorax pygmeus

(Halietor pygmeus)

Pygmy Cormorant

Albania; Azerbaijan; Bulgaria; Greece; Hungary; Iran; Iraq; Italy; Kazakhstan; Moldova; Romania; Russia; Tajikistan; Turkey; Turkmenistan; Uzbekistan; Yugoslavia. \* Afghanistan; Austria; Georgia; Israel

#### Family FREGATIDAE

#### V Fregata andrewsi

Christmas Island Frigatebird

Christmas Island. \* Indonesia: Bali, Java, Sumatra; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Singapore; Thailand; Viet Nam

## R Fregata aquila

Ascension Frigatebird

Ascension: Saint Helena. \* tropical Atlantic

#### Order CICONIIFORMES

#### Family ARDEIDAE

# K Ardea humbloti

Madagascar Heron

Comoros?; Madagascar. \* Comoros; Mayotte

# E Ardea insignis

(Ardea imperialis)

White-bellied Heron

Bangladesh; Bhutan; India; Myanmar

#### V Egretta eulophotes

Chinese Egret

China; Hong Kong?; Korea D.P.R.; Korea Republic. \* Brunei; Japan; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Philippines: Basilan, Batan, Bohol, Cebu, Luzon, Mindoro, Palawan, Panay, Samar, Russia; Singapore; Taiwan

#### I Egretta vinaceigula

Slaty Egret

Botswana; Namibia; Zambia?

## V Gorsachius goisagi

Japanese Night-Heron

Japan. \* China; Philippines; Taiwan

#### E Gorsachius magnificus

White-eared Night-Heron

China: Hainan

#### Family BALAENICIPITIDAE

#### K Balaeniceps rex

Shoebill

Burundi?; Central African Republic; Ethiopia; Rwanda; Sudan; Tanzania; Uganda; Zaire; Zambia

#### Family CICONIIDAE

#### E Ciconia boyciana

Oriental Stork

China; Russia. \* Japan; Korea D.P.R.; Korea Republic

#### I Ciconia stormi

Storm's Stork

Indonesia: Kalimantan, Sumatra?; Malaysia: Sabah, Sarawak; Thailand. \* Brunei; Malaysia: Peninsular Malaysia

### E Leptoptilos dubius

Greater Adjutant

Cambodia (ex?); India; Laos (ex?); Myanmar (ex?); Viet Nam (ex?). \* Nepal; Thailand

# V Leptoptilos javanicus

Lesser Adjutant

Bangladesh; Cambodia?; China; India; Indonesia: Bali, Kalimantan, Sumatra; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Laos?; Myanmar; Nepal; Sri Lanka; Thailand; Viet Nam. \* Bhutan; Brunei; Singapore

### V Mycteria cinerea

Milky Stork

Cambodia; Indonesia: Java, Sumatra, Sulawesi; Malaysia: Peninsular Malaysia; Viet Nam

# Family THRESKIORNITHIDAE

# R Geronticus calvus

Bald Ibis

Lesotho: South Africa: Swaziland

#### E Geronticus eremita

Waldrapp

Morocco. \* Ethiopia; Syria; Yemen

# E Nipponia nippon

Crested Ibis

China

## E Platalea minor

Black-faced Spoonbill

China; Korea D.P.R. \* Cambodia; China; Hong Kong; Japan; Taiwan; Viet Nam

#### I Pseudibis davisoni

White-shouldered Ibis

Cambodia?; China; Indonesia: Kalimantan; Laos?; Myanmar?; Viet Nam. \* Malaysia: Peninsular Malaysia, Sarawak

# R Pseudibis gigantea

Giant Ibis

Cambodia (ex?); Laos

# Order ANSERIFORMES

# Family ANATIDAE

## K Aix galericulata

Mandarin Duck

China; Japan; Korea D.P.R.; Korea Republic; Russia. \* Taiwan [Austria; Belgium; Netherlands; United Kingdom]

# V Anas aucklandica

Brown Teal

New Zealand

### V Anas bernieri Bernier's Teal

Madagascar

# V Anas formosa

Baikal Teal

Russia. \* China; Japan; Korea D.P.R.; Korea Republic

# R Anas wyvilliana

Hawaiian Duck

USA: Hawaiian Islands (Kauai) [Hawaiian Islands: Hawaii, Oahu]

### R Anser erythropus

Lesser White-fronted Goose

Finland; Norway; Sweden; Russia. \* Albania; Bulgaria; China; Greece; Hungary; India; Iran; Iraq; Japan; Latvia; Pakistan; Romania; Turkey; Turkmenistan; Yugoslavia

### V Aythya baeri

Baer's Pochard

China; Korea D.P.R.?; Russia. \* Bangladesh; Hong Kong; India; Japan; Myanmar; Nepal; Korea Republic; Thailand; Viet Nam

## E Aythya innotata

Madagascar Pochard Madagascar

# K Branta ruficollis

Red-breasted Goose

Russia. \* Bulgaria; Greece; Hungary; Iran; Iraq; Kazakhstan; Romania; Turkey; Turkmenistan

### V Branta sandvicensis

Nene

USA: Hawaiian Islands (Hawaii, Maui)

#### V Cairina scutulata

White-winged Duck

Bangladesh; Cambodia?; India; Indonesia: Sumatra; Laos; Myanmar; Thailand; Viet Nam

#### V Dendrocygna arborea

West Indian Whistling-Duck

Antigua and Barbuda; Bahamas; British Virgin Islands; Cayman Islands; Cuba; Dominican Republic; Haiti; Jamaica; Puerto Rico; Turks and Caicos Islands; Virgin Islands of the United States

#### V Marmaronetta angustirostris

Marbled Teal

Afghanistan; Algeria; Armenia; Azerbaijan; China?; Egypt?; Georgia; Iran; Iraq; Israel; Kazakhstan; Morocco; Pakistan?; Russia; Senegal; Spain; Tajikistan; Tunisia (ex?); Turkey; Turkmenistan; Uzbekistan. \* Chad; Egypt; India; Mali; Morocco; Pakistan; Turkey

# E Mergus octosetaceus

Brazilian Merganser

Argentina; Brazil; Paraguay

# I Mergus squamatus

Scaly-sided Merganser

China; Korea D.P.R.; Russia

# V Oxyura leucocephala

White-headed Duck

Afghanistan; Algeria; France: Corsica (ex?); Iran; Kazakhstan; Romania; Russia; Spain; Tunisia; Turkey; Turkmenistan; Uzbekistan. \* Albania; Bulgaria; China; Cyprus; Egypt; Greece; India; Iraq; Italy; Morocco; Pakistan; Syria; Tajikistan

# K Stictonetta naevosa

Freckled Duck Australia

#### E Tadorna cristata

Crested Shelduck

China?; Korea D.P.R.?; Russia. \* China?; Korea Republic

# Order FALCONIFORMES

# Family CATHARTIDAE

E Gymnogyps californianus California Condor

[Reintroduced to USA]

#### Family ACCIPITRIDAE

R Accipiter brachyurus
New Britain Sparrowhawk
Papua New Guinea: New Britain

V/R Accipiter gundlachi Gundlach's Hawk Cuba

R Accipiter imitator
Imitator Sparrowhawk
Papua New Guinea: Bougainville; Solomon
Islands: Choiseul, Santa Isabel

R Accipiter nanus Small Sparrowhawk Indonesia: Sulawesi

V Aegypius monachus Cinereous Vulture

> Armenia: Afghanistan; Albania (ex?); Bulgaria?; China: Cyprus?: Azerbaijan: Kazakhstan; Greece; Iran; Georgia; Kyrgyzstan; Mongolia; Pakistan; Portugal; Russia; Spain: including Balearic Islands: Syria?; Tajikistan; Turkey; Mallorca: Turkmenistan; Uzbekistan; Yugoslavia. \* Bangladesh?; Bhutan?; Egypt; Hong Kong; India; Italy; Korea D.P.R.; Korea Republic; Morocco; Myanmar; Nepal; Oman; Saudi Arabia: Thailand

E Aquila adalberti Adalbert's Eagle Portugal; Spain

R Aquila heliaca Imperial Eagle

Albania?; Azerbaijan; Bulgaria; China; Cyprus; Czechoslovakia; Georgia; Greece; Hungary; Iran; Kazakhstan; Moldova; Romania; Russia; Turkey; Turkmenistan; Ukraine; Uzbekistan; Yugoslavia. \* Afghanistan; Bangladesh; Djibouti; Egypt; Ethiopia; Hong Kong; India; Iraq; Israel; Jordan; Kuwait; Laos; Lebanon; Nepal; Oman; Pakistan; Saudi Arabia; Sudan; United Arab Emirates; Viet Nam; Yemen

R Buteo galapagoensis
Galapagos Hawk
Ecuador: Galapagos Islands

I Buteo ridgwayi
Ridgway's Hawk
Dominican Republic; Haiti

R Buteo solitarius Hawaiian Hawk USA: Hawaiian Islands (Hawaii) K Erythrotriorchis radiatus (Accipiter radiatus) Red Goshawk Australia

E Eutriorchis astur Madagascar Serpent-Eagle Madagascar

R Gyps coprotheres
Cape Griffon
Botswana; Lesotho; Mozambique; Namibia;
South Africa. \* Swaziland

V Haliaeetus albicilla White-tailed Eagle

> Albania (ex?); Armenia; Austria; Azerbaijan; Belarus; Bulgaria; China; Czechoslovakia; Denmark; Estonia; Finland; Georgia; Germany; Greece; Greenland; Hungary; Iceland; Iran; Israel; Japan; Kazakhstan; Latvia; Lithuania; Moldova; Mongolia; Nepal; Norway; Poland; Romania: Russia: Sweden: Turkey: Turkmenistan: Ukraine; Yugoslavia. Afghanistan: France: Faeroe Islands: India: Israel; Japan; Korea D.P.R.; Korea Republic; Nepal; Pakistan; Taiwan; Tajikistan; USA; Uzbekistan [Reintroduced to United Kingdom]

R Haliaeetus leucoryphus Pallas's Sea-Eagle

Bangladesh; Bhutan; China; India; Kazakhstan; Mongolia; Myanmar, Nepal; Pakistan; Russia?; Tajikistan; Uzbekistan. \* Afghanistan

R Haliaeetus pelagicus Steller's Sea-Eagle Russia. \* Japan; Korea D.P.R.?; Korea Republic

E Haliaeetus vociferoides Madagascar Fish-Eagle Madagascar

V Harpyhaliaetus coronatus
 Crowned Eagle
 Argentina; Bolivia; Brazil; Paraguay; Uruguay

V Harpyopsis novaeguineae New Guinea Eagle Indonesia: Irian Jaya; Papua New Guinea

I Henicopernis infuscatus
Black Honey-buzzard
Papua New Guinea: New Britain

V/R Leucopternis lacernulata
White-necked Hawk
Brazil

- E Leucopternis occidentalis Grey-backed Hawk Ecuador, Peru
- K Milvus milvus Red Kite

Algeria (ex?); Armenia?; Austria; Belarus; Belgium; Cape Verde; Czechoslovakia; Denmark; France; Georgia; Germany; Hungary; Iran; Italy; Latvia?; Lithuania; Luxembourg; Moldova; Morocco; Netherlands; Poland; Portugal; Romania; Russia; Spain; Sweden; Switzerland; Tunisia (ex?); Ukraine; United Kingdom; Yugoslavia. \* Austria; Bulgaria; Gibraltar, Greece; Liechtenstein; Turkey

- E Pithecophaga jefferyi
  Great Philippine Eagle
  Philippines: Leyte, Luzon, Mindanao, Samar
- R Spilornis elgini
  Andaman Serpent-Eagle
  India: Andaman Islands
- R Spilornis kinabaluensis

  Mountain Serpent-Eagle

  Brunei; Indonesia: Kalimantan; Malaysia:
  Sabah, Sarawak
- V Spizaetus bartelsi Javan Hawk-Eagle Indonesia: Java
- R Spizaetus nanus
   Wallace's Hawk-Eagle
   Brunei; Indonesia: Kalimantan, Sumatra;
   Malaysia: Peninsular Malaysia, Sabah,
   Sarawak; Myanmar, Thailand

# Family FALCONIDAE

- K Falco hypoleucos Grey Falcon Australia
- R Falco naumanni Lesser Kestrel

Afghanistan; Albania?; Algeria; Armenia; Austria; Azerbaijan; Bulgaria; China; Czechoslovakia?; France; Georgia; Gibraltar; Greece; Hungary; Iran; Iraq?; Israel; Italy; Jordan; Kazakhstan; Kyrgyzstan; Lebanon?; Libya; Moldova; Mongolia; Morocco; Poland?; Portugal; Romania; Russia; Saudi Arabia; Spain; Switzerland?; Syria; Tajikistan; Tunisia; Turkey; Turkmenistan; Ukraine; Uzbekistan; Yugoslavia. \* Angola; Bahrain; Bangladesh; Benin; Botswana; Burkina Faso:

Burundi; Central African Republic; Chad; Congo; Côte d'Ivoire; Cyprus; Djibouti; Egypt; Ethiopia; Ghana; Guinea-Bissau?; India; Iraq; Kenya; Kuwait; Laos; Lebanon; Lesotho; Malawi; Maldives; Mali; Malta; Mauritania; Mozambique; Myanmar; Namibia; Nepal; Niger; Nigeria; Oman; Pakistan; Poland; Qatar, Rwanda; Senegal; Sierra Leone?; South Africa; Sudan; Tanzania; Togo?; Turkey; Uganda; United Arab Emirates; Western Sahara?; Yemen; Zaire; Zambia; Zimbabwe

- E Falco punctatus

  Mauritius Kestrel

  Mauritius
- K Micrastur buckleyi
  Buckley's Forest-Falcon
  Brazil; Colombia?; Ecuador, Peru
- V Micrastur plumbeus
  Plumbeous Forest-Falcon
  Colombia: Ecuador

# Order GALLIFORMES

# Family MEGAPODIIDAE

- R Aepypodius bruijnii
  Bruijn's Brush-turkey
  Indonesia: Waigeo Island
- K Leipoa ocellata Malleefowl Australia
- V Macrocephalon maleo
  Maleo
  Indonesia: Lembeh, Sulawesi
- V Megapodius bernsteinii Sula Scrubfowl Indonesia: Banggai (ex?), Sula
- R Megapodius laperouse Micronesian Scrubfowl Northern Marianas; Palau
- R Megapodius nicobariensis Nicobar Scrubfowl India: North Nicobar Islands
- V Megapodius pritchardii Niuafo'ou Scrubfowl Tonga: Niuafo'ou
- R Megapodius wallacei
   Moluccan Scrubfowl
   Indonesia: Ambon, Bacan, Buru, Halmahera,
   Haruku, Misool, Seram, Ternate

#### Family CRACIDAE

- E Crax alberti
  Blue-knobbed Curassow
  Colombia
- R Crax blumenbachii Red-billed Curassow Brazil
- I Crax globulosa
  Wattled Curassow
  Bolivia; Brazil; Colombia; Ecuador, Peru
- E Mitu mitu Alagoas Curassow Brazil
- V/R Oreophasis derbianus Homed Guan Guatemala; Mexico
- E Pauxi pauxi
  Helmeted Curassow
  Colombia; Venezuela
- V/R Pauxi unicornis Horned Curassow Peru; Bolivia
- E Penelope albipennis White-winged Guan Penu
- V/R Penelope barbata Bearded Guan Ecuador, Peru
- V/R Penelope ochrogaster Chestnut-bellied Guan Brazil
- R Penelope perspicax
  Cauca Guan
  Colombia
- V/R Pipile jacutinga
  Black-fronted Piping-Guan
  Argentina; Brazil; Paraguay
- E *Pipile pipile*Trinidad Piping-Guan
  Trinidad and Tobago: Trinidad
- Family PHASIANIDAE
  K Afropavo congensis
  Congo Peafowl
  Zaire
- E Agelastes meleagrides

  White-breasted Guineafowl
  Côte d'Ivoire; Ghana (ex?); Liberia; Sierra
  Leone

- E Arborophila ardens
  Hainan Partridge
  China
- R Arborophila cambodiana Chestnut-headed Partridge Cambodia: Thailand
- R Arborophila charltonii
  Chestnut-necklaced Partridge
  Indonesia: Sumatra; Malaysia: Peninsular
  Malaysia, Sabah; Thailand; Viet Nam
- I Arborophila davidi
  Orange-necked Partridge
  Viet Nam
- R Arborophila gingica
  White-necklaced Partridge
  China
- E Arborophila rufipectus Sichuan Partridge China
- E Catreus wallichii Cheer Pheasant India; Nepal; Pakistan
- V Crossoptilon crossoptilon White Eared-Pheasant China
- E Crossoptilon mantchuricum Brown Eared-Pheasant China
- E Dendrortyx barbatus
  Bearded Wood-Partridge
  Mexico
- R Francolinus camerunensis Cameroon Francolin Cameroon
- V Francolinus gularis Swamp Francolin Bangladesh; India; Nepal
- R Francolinus nahani Nahan's Francolin Uganda; Zaire
- E Francolinus ochropectus
  Ochre-breasted Francolin
  Diibouti
- I Francolinus swierstrai Swierstra's Francolin Angola
- E Lophophorus lhuysii Chinese Monal China

R Lophophorus sclateri Sclater's Monal China; India; Myanmar

V Lophura bulweri
Bulwer's Pheasant
Brunei; Indonesia: Kalimantan; Malaysia:
Sabah, Sarawak

R Lophura diardi Siamese Fireback Cambodia; Laos; Thailand; Viet Nam

V Lophura edwardsi Edwards's Pheasant Viet Nam

I Lophura hatinhensis Vietnamese Pheasant Viet Nam

V Lophura ignita
Crested Fireback
Brunei; Indonesia: Kalimantan, Sumatra;
Malaysia: Peninsular Malaysia, Sabah,
Sarawak; Myanmar; Thailand

V Lophura imperialis Imperial Pheasant Laos?; Viet Nam

V Lophura inornata Salvadori's Pheasant Indonesia: Sumatra

V Lophura swinhoii Swinhoe's Pheasant Taiwan

V/R Odontophorus strophium Gorgeted Wood-Quail

Colombia

V Pavo muticus

Green Peafowl

Bangladesh (ex?); Cambodia; China; India; Indonesia: Java; Laos; Malaysia: Peninsular Malaysia; Myanmar; Thailand; Viet Nam

R Perdicula manipurensis Manipur Bush-Quail Bangladesh; India

V Polyplectron emphanum Palawan Peacock-Pheasant Philippines: Palawan

R Polyplectron germaini
Germain's Peacock-Pheasant
Laos?; Viet Nam

R Polyplectron malacense
 Malayan Peacock-Pheasant
 Malaysia: Peninsular Malaysia; Myanmar,
 Thailand

R Polyplectron schleiermacheri (P. malacense schleiermacheri) Bornean Peacock-Pheasant Indonesia: Kalimantan; Malaysia: Sabah, Sarawak

R Rheinardia ocellata
(includes R. nigrescens)
Crested Argus
Laos; Malaysia: Peninsular Malaysia; Viet
Nam

E Syrmaticus ellioti
Elliot's Pheasant
China

R Syrmaticus humiae Hume's Pheasant China; India; Myanmar; Thailand

V Syrmaticus mikado Mikado Pheasant Taiwan

R Syrmaticus reevesii
Reeves's Pheasant
China
[Czechoslovakia]

K Tetrao mlokosiewiczi
 Caucasian Grouse
 Armenia; Azerbaijan; Georgia; Iran; Russia;
 Turkey

R Tragopan blythii
Blyth's Tragopan
Bhutan; China; India; Myanmar

E Tragopan caboti Cabot's Tragopan China

E Tragopan melanocephalus
Western Tragopan
China; India; Nepal?; Pakistan

# Order GRUIFORMES

#### Family MESITORNITHIDAE

K Mesitornis unicolor Brown Roatelo Madagascar

R Mesitornis variegata
White-breasted Roatelo
Madagascar

R Monias benschi Monias Madagascar

## Family TURNICIDAE

I Turnix everetti
Sumba Buttonquail
Indonesia: Sumba

K Turnix melanogaster
Black-breasted Buttonquail
Australia

K Turnix olivii

Buff-breasted Buttonquail

Australia

I Turnix worcesteri
Worcester's Buttonquail
Philippines: Luzon

# Family PEDIONOMIDAE

K Pedionomus torquatus
Plains-wanderer
Australia

#### Family GRUIDAE

E Grus americana
Whooping Crane
Canada. \* USA

Grus vipio

K Grus carunculatus
(Bugeranus carunculatus)
Wattled Crane
Angola; Botswana; Ethiopia; Malawi;
Mozambique; Namibia; South Africa;

V Grus japonensis
Red-crowned Crane
China; Japan; Russia; Mongolia. \* Korea
D.P.R.; Korea Republic

Tanzania; Zaire; Zambia; Zimbabwe

V Grus leucogeranus Siberian Crane China; Mongolia?; Russia. \* Afghanistan; India; Iran; Pakistan

V Grus monacha Hooded Crane Russia. \* Japan; Korea D.P.R.; Korea Republic; Taiwan

V Grus nigricollis
Black-necked Crane
China; India. \* Bhutan; Myanmar, Viet Nam

White-naped Crane
China; Mongolia; Russia. \* Japan; Korea
D.P.R.; Korea Republic

#### Family RALLIDAE

K Amaurornis olivieri Sakalava Rail Madagascar

I Aramidopsis plateni Snoring Rail Indonesia: Sulawesi

R Atlantisia rogersi
Inaccessible Rail
Saint Helena: Inaccessible Island

R Coturnicops exquisitus
Swinhoe's Rail
China; Russia. \* Japan; Korea D.P.R.; Korea

I Coturnicops notatus
Speckled Rail
Argentina; Brazil; Colombia; Guyana;
Paraguay; Uruguay; Venezuela

R Crex crex Corn Crake

> Afghanistan; Albania; Armenia?; Austria; Azerbaijan (ex?); Belarus; Belgium; Bulgaria; China; Czechoslovakia; Denmark; Estonia; Finland; France; Georgia; Germany; Greece; Hungary; Iran; Ireland; Italy; Kazakhstan; Kyrgyzstan; Latvia; Liechtenstein; Lithuania; Luxembourg: Moldova: Netherlands: Norway: Poland; Romania; Russia; Spain; Sweden; Switzerland; Tajikistan; Turkey?; Ukraine; United Kingdom; Yugoslavia. \* Afghanistan; Algeria; Azerbaijan; Botswana; Ethiopia; Ghana; Iraq; Israel; Kenya; Malawi; Mali; Mauritania; Morocco; Mozambique; Namibia: Nigeria: Portugal: Saudi Arabia: South Africa; Sudan; Swaziland; Tanzania; Tunisia; Turkmenistan; Uganda; United Kingdom: Channel Islands (Guernsey, Jersey); Uzbekistan; Zaire; Zambia; Zimbabwe

I Cyanolimnas cerverai Zapata Rail Cuba

K Fulica cornuta Horned Coot Argentina; Bolivia; Chile

I Gallinula nesiotis
Tristan Moorhen
Saint Helena: Tristan da Cunha, Gough Island

I Gallinula silvestrisSan Cristobal MoorhenSolomon Islands: San Cristobal

I Gallirallus lafresnayanus (Tricholimnas lafresnayanus) New Caledonian Rail New Caledonia (ex?)

V Gallirallus okinawae (Rallus okinawae) Okinawa Rail Japan: Okinawa

V Gallirallus owstoni (Rallus owstoni) Guam Rail Guam

E Gallirallus sylvestris
(Tricholimnas sylvestris)
Lord Howe Rail
Australia: Lord Howe Island

I Gymnocrex rosenbergii
Bald-faced Rail
Indonesia: Peleng, Sulawesi

I Habroptila wallacii
Invisible Rail
Indonesia; Halmahera

V Laterallus levraudi Rusty-flanked Crake Venezuela

E Laterallus tuerosi
(L. jamaicensis tuerosi)
Junin Rail
Peru

V/R Laterallus xenopterus Rufous-faced Crake Brazil; Paraguay

I Lewinia mirificus
(Dryolimnas mirificus, Rallus mirificus)
Brown-banded Rail

Philippines: Luzon

E Nesoclopeus poecilopterus Bar-winged Rail Fiji: Viti Levu, Ovalau

E Porphyrio mantelli (Notornis mantelli) Takahe New Zealand: South Island

R Porzana atra
(Nesophylax ater)
Henderson Island Crake
Pitcairn Islands: Henderson Island

I Porzana spiloptera
Dot-winged Crake
Argentina; Uruguay

E/Ex Rallus antarcticus Austral Rail Argentina; Chile

V/R Rallus semiplumbeus Bogotá Rail Colombia; Ecuador?

E Rallus wetmorei
Plain-flanked Rail
Venezuela

I Sarothrura ayresi
White-winged Flufftail
Ethiopia (ex?); South Africa

I Sarothrura watersi Waters's Flufftail Madagascar

Family HELIORNITHIDAE

Heliopais personata

Masked Finfoot

Bangladesh; Cambodia?; India; Myanmar;
Thailand?; Viet Nam. \* Cambodia?; Indonesia:
Java, Sumatra; Malaysia: Peninsular Malaysia;
Thailand; Viet Nam

Family RHYNOCHETIDAE

E Rhynochetos jubatus Kagu New Caledonia

Family OTIDIDAE

V Ardeotis nigriceps
Indian Bustard
India; Pakistan. \* Pakistan?

V Chlamydotis undulata Houbara Bustard

Afghanistan?; Algeria; China; Egypt; Iran; Iraq; Israel; Jordan; Kazakhstan; Kyrgyzstan; Libya; Mauritania; Mongolia; Morocco; Oman; Pakistan; Russia; Saudi Arabia; Spain: Canary Islands; Sudan; Syria; Tajikistan; Tunisia; Turkmenistan; Uzbekistan; Western Sahara; Yemen. \* Afghanistan; Bahrain; India; Kuwait; Qatar; United Arab Emirates

E Eupodotis bengalensis
(Houbaropsis bengalensis)
Bengal Florican
Bhutan?; Cambodia?; India; Nepal; Viet Nam

E upodotis indica
 (Sypheotides indica)

 Lesser Florican
 India; Nepal. \* Bangladesh?; Nepal; Pakistan

#### R Otis tarda

Great Bustard

Austria; China; Czechoslovakia; Germany; Hungary; Iran; Kazakhstan; Kyrgyzstan; Moldova; Mongolia; Morocco; Portugal; Romania; Russia; Spain; Syria?; Tajikistan; Turkey; Ukraine; Uzbekistan; Yugoslavia. \* Afghanistan?; Azerbaijan; Bulgaria; Iraq; Syria; Turkmenistan; Yugoslavia

## R Tetrax tetrax

Little Bustard

Albania?; Algeria; China; France; Iran; Iraq?; Italy; Kazakhstan; Kyrgyzstan; Morocco; Portugal; Russia; Spain; Turkey; Ukraine; Uzbekistan. \* Azerbaijan?; Egypt; Georgia; Israel; Libya; Pakistan; Romania; Tajikistan; Tunisia; Turkmenistan; Yugoslavia

#### Order CHARADRIIFORMES

# Family RECURVIROSTRIDAE

### E Himantopus novaezelandiae

Black Stilt

New Zealand: South Island. \* New Zealand: North Island

#### Family GLAREOLIDAE

### I Rhinoptilus bitorquatus

(Cursorius bitorquatus) Jerdon's Courser

India

# Family CHARADRIIDAE

# V/R Charadrius melodus

Piping Plover

Canada; USA. \* Bahamas; Barbados; Bermuda; British Virgin Islands; Cuba; Dominican Republic; Haiti; Mexico; Puerto Rico; Virgin Islands of the United States

#### E Charadrius novaeseelandiae

(Thinornis novaeseelandiae)

Shore Plover

New Zealand: Chatham Islands (Rangatira Island)

#### K Charadrius rubricollis

Hooded Plover

Australia

## R Charadrius sanctaehelenae

Saint Helena Plover

Saint Helena

## R Charadrius thoracicus

Black-banded Plover

Madagascar

## R Vanellus gregarius

(Chettusia gregaria)

Sociable Lapwing

Kazakhstan; Russia. \* Ethiopia; India; Iran; Iraq; Israel; Kyrgyzstan; Oman; Pakistan; Saudi Arabia; Sudan; Tajikistan; Turkey; Turkmenistan; Uzbekistan; Yemen

# I Vanellus macropterus

Javanese Lapwing

Indonesia: Java (ex?)

#### Family SCOLOPACIDAE

#### K Calidris paramelanotos

Cox's Sandpiper

not known, possibly Russia

# R Coenocorypha aucklandica

(includes C. pusilla)

Subantarctic Snipe

New Zealand: Antipodes Island, Auckland Islands, Chatham Islands, Snares Island

# I Eurynorhynchus pygmeus

Spoonbill Sandpiper

Russia. \* Bangladesh; China; Hong Kong; India; Japan; Korea D.P.R.; Korea Republic; Singapore

### I Gallinago nemoricola

Wood Snipe

Bhutan; China; India; Nepal. \* Pakistan

## R Limnodromus semipalmatus

Asian Dowitcher

China; Mongolia; Russia. \* Australia; Bangladesh; Brunei; Cambodia; Hong Kong; India; Indonesia: Java, Kalimantan, Sumatra; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Myanmar; Philippines: Cebu, Luzon, Olango, Simunul; Singapore; Thailand; Viet Nam

#### E/Ex Numenius borealis

Eskimo Curlew

Canada; USA?: Alaska. \* Brazil; French Guiana; Guyana; Paraguay; Suriname

#### V/R Numenius tahitiensis

Bristle-thighed Curlew

USA: Alaska. \* American Samoa; Fiji; French Polynesia: Marquesas Islands, Tuamotu Archipelago; Tonga; USA: Hawaiian Islands; Marshall Islands: Western Samoa

# K Numenius tenuirostris

Slender-billed Curlew

Russia. \* Greece; Hungary; Italy; Morocco; Romania; Tunisia; Turkey; Yugoslavia

V Prosobonia cancellatus

Tuamotu Sandpiper

French Polynesia: Tuamoto Archipelago

I Scolopax celebensis

Sulawesi Woodcock

Indonesia: Sulawesi

I Scolopax rochussenii

Moluccan Woodcock

Indonesia: Bacan, Halmahera?, Obi, Ternate?

I Tringa guttifer

Nordmann's Greenshank

Russia. \* Bangladesh; Cambodia?; China; Japan; Korea D.P.R.; Korea Republic; Laos?; Malaysia; Peninsular Malaysia; Myanmar; Philippines: Cebu, Luzon; Thailand

#### Family LARIDAE

V Chlidonias albostriatus

(Sterna albostriata)

Black-fronted Tern

New Zealand: South Island

K Larus atlanticus

Olrog's Gull

Argentina. \* Brazil; Uruguay

R Larus audouinii

Audouin's Gull

Algeria; Cyprus; France: Corsica; Greece; Italy: Sardinia: Morocco; Spain; Tunisia; Turkey. \* Gibraltar; Libya; Western Sahara

K Larus leucophthalmus

White-eyed Gull

Egypt; Ethiopia; Saudi Arabia; Somalia; Sudan; Yemen

R Larus relictus

Relict Gull

China; Kazakhstan; Mongolia; Russia. \* Korea Republic

R Larus saundersi

Saunders's Gull

China. \* Hong Kong; Japan; Korea D.P.R.?; Korea Republic?; Taiwan; Viet Nam

R Sterna balaenarum

Damara Tern

Angola?; Namibia; South Africa. \* Angola; Cameroon; Gabon; Ghana; Nigeria; Zaire?

I Sterna bernsteini

Chinese Crested Tern

China?

V Sterna virgata

Kerguelen Tern

French Southern and Antarctic Territories: Crozet Islands, Kerguelen Islands; South Africa: Prince Edward Island

#### Family ALCIDAE

V Synthliboramphus wumizusume

Japanese Murrelet

Japan: including Izu Islands. \* Korea D.P.R.; Korea Republic; Russia

#### Order COLUMBIFORMES

#### Family COLUMBIDAE

R Caloenas nicobarica

Nicobar Pigeon

Cambodia; India: Andaman and Nicobar Islands: South Sentinal; Indonesia; Malaysia: Peninsular Malaysia, Sabah, Sarawak; Myanmar; Palau; Papua New Guinea; Philippines; Solomon Islands; Thailand; Viet Nam

E/Ex Claravis godefrida

Purple-winged Ground-Dove Argentina; Brazil; Paraguay

V Columba argentina

Silvery Wood-Pigeon

Indonesia: Anamba Islands (ex?), Kalimantan (ex?), Karimata Islands (ex?), Lingga Archipelago (ex?), Mentawai Islands (ex?), Natuna Islands (ex?), Riau Archipelago (ex?), Simeulue (ex?), Sumatra

R Columba bollii

Bolle's Pigeon

Spain: Canary Islands

V Columba caribaea

Ring-tailed Pigeon

Jamaica

V Columba elphinstonii

Nilgiri Wood-Pigeon

India

I Columba inornata

Plain Pigeon

Cuba; Dominican Republic; Haiti; Jamaica; Puerto Rico

R Columba junoniae

Laurel Pigeon

Spain: Canary Islands

E Columba mayeri

(Nesoenas mayeri)

Pink Pigeon

Mauritius

V Columba oenops Peruvian Pigeon Peru

R Columba oliviae Somali Pigeon Somalia

I Columba pallidiceps
 Yellow-legged Pigeon
 Papua New Guinea: Bismarck Archipelago;
 Solomon Islands (ex?)

R Columba punicea
 Pale-capped Pigeon
 China; India; Laos; Myanmar, Thailand; Viet
 Nam

V Columba thomensis

Maroon Pigeon

São Tomé and Príncipe: São Tomé

V Columba torringtoni Ceylon Wood-Pigeon Sri Lanka

R Columba trocaz
Trocaz Pigeon
Portugal: Madeira

E Columbina cyanopis
Blue-eyed Ground-Dove
Brazil

V Didunculus strigirostris
Tooth-billed Pigeon
Western Samoa: Savaii, Upolu

V Drepanoptila holosericea Cloven-feathered Dove New Caledonia

V Ducula aurorae
Polynesian Imperial-Pigeon
French Polynesia: Tahiti, Makatea

E Ducula galeata
Marquesan Imperial-Pigeon
French Polynesia: Nukuhiva

V Ducula goliath
New Caledonian Imperial-Pigeon
New Caledonia

R Ducula mindorensis
Mindoro Imperial-Pigeon
Philippines: Mindoro

R Ducula pickeringii
Grey Imperial-Pigeon
Indonesia: Miangas, Talaud; Malaysia: Sabah;
Philippines

V Ducula whartoni Christmas Island Imperial-Pigeon Christmas Island

I Gallicolumba erythroptera
 Polynesian Ground-Dove
 French Polynesia: Tuamoto Archipelago

I Gallicolumba hoedtii
Wetar Ground-Dove
Indonesia: Timor. Wetar

I Gallicolumba keayi Negros Bleeding-heart Philippines: Negros

I Gallicolumba menagei
 Sulu Bleeding-heart
 Philippines: Sulu Archipelago, Tawitawi

I Gallicolumba platenae Mindoro Bleeding-heart Philippines: Mindoro

I Gallicolumba rubescens
Marquesan Ground-Dove
French Polynesia; Hatutu, Fatuhuku

I Gallicolumba salamonis
Thick-billed Ground-Dove
Solomon Islands: Malaita, San Cristobal

R Gallicolumba santaecrucis
Santa Cruz Ground-Dove
Solomon Islands: Tinakula, Utupua; Vanuatu:
Espiritu Santo

R Goura cristata
Western Crowned-Pigeon
Indonesia: Batanta, Irian Jaya, Misool,
Salawati, Waigeo

R Goura scheepmakeri
Southern Crowned-Pigeon
Indonesia: Irian Jaya; Papua New Guinea

R Goura victoria
Victoria Crowned-Pigeon
Indonesia: Biak, Irian Jaya, Yapen; Papua New
Guinea

V/R Leptotila conoveri
Tolima Dove
Colombia

E Leptotila ochraceiventris Ochre-bellied Dove Ecuador, Peru

E Leptotila wellsi Grenada Dove Grenada

- I Ptilinopus arcanus Negros Fruit-Dove Philippines: Negros
- R Ptilinopus dohertyi
  Red-naped Fruit-Dove
  Indonesia: Sumba
- I Ptilinopus granulifrons
  Carunculated Fruit-Dove
  Indonesia: Obi
- R Ptilinopus huttoni
  Rapa Fruit-Dove
  French Polynesia: Tubuai Islands (Rapa)
- V Ptilinopus roseicapilla Marianas Fruit-Dove Guam; Northern Marianas
- I Starnoenas cyanocephala Blue-headed Quail-Dove Cuba
- V Treron capellei
  Large Green-Pigeon
  Brunei; Indonesia; Java, Kalimantan, Sumatra;
  Malaysia: Peninsular, Sabah, Sarawak;
  Myanmar, Thailand
- V Treron psittacea
  Timor Green-Pigeon
  Indonesia: Roti, Semau, Timor
- V Treron teysmannii Sumba Green-Pigeon Indonesia: Sumba
- E Zenaida graysoni
  Socorro Dove
  Mexico: Revillagigedos Islands

### Order PSITTACIFORMES

### Family LORIDAE

- I Charmosyna diadema
  New Caledonian Lorikeet
  New Caledonia (ex?)
- I Charmosyna toxopei
  Blue-fronted Lorikeet
  Indonesia: Buru
- R Eos cyanogenia
  Black-winged Lory
  Indonesia: Biak, Manim, Meos Num, Numfor
- R Eos histrio
  Red-and-blue Lory
  Indonesia: Miangas, Ruang, Sangihe, Siau,
  Talaud

- R Eos reticulata
  Blue-streaked Lory
  Indonesia: Babar, Tanimbar
  [Indonesia: Damar, Kai Islands]
- R Lorius domicella
  Purple-naped Lory
  Indonesia: Ambon, Seram
  [Indonesia: Buru]
- R Vini kuhlii
  Kuhl's Lorikeet
  French Polynesia: Rimitara, Tubuai?
  [Kiribati: Kiritimati, Tabuaeran, Teraina]
- R Vini peruviana
  Tahitian Lorikeet
  Cook Islands: [Aitutaki]?; French Polynesia:
  Society Islands, Tuamotu Archipelago
- R Vini stepheni Stephen's Lorikeet Pitcairn Islands: Henderson Island
- R Vini ultramarina
  Ultramarine Lorikeet
  French Polynesia: Nukuhiva, Uapou
  [French Polynesia: Uahuka]

# Family CACATUIDAE

- E Cacatua alba
  White Cockatoo
  Indonesia: Bacan, Halmahera, Obi, Ternate,
  Tidore
- E Cacatua goffini
  Tanimbar Cockatoo
  Indonesia: Tanimbar Islands
  [Indonesia: Kai Islands (Tual)]
- E Cacatua haematuropygia
  Philippine Cockatoo
  Philippines
- E Cacatua moluccensis
  Salmon-crested Cockatoo
  Indonesia: Haruku, Seram, Saparua
  [Indonesia: Ambon; Singapore]
- Y Cacatua sulphurea
  Yellow-crested Cockatoo
  Indonesia: Alor, Besar, Butung, Flores, Kalao,
  Kalaotoa, Kayunadi, Komodo, Lombok, Madu,
  Muna, Sulawesi, Sumbawa, Padar, Pantar,
  Penida, Rinca, Salembu, Seman, Sumba,
  Tanahjampea, Timor, Tukanbesi
  [Hong Kong; Singapore]

# Family PSITTACIDAE

- R Agapornis nigrigenis
  Black-cheeked Lovebird
  Botswana; Namibia?; Zambia; Zimbabwe (ex?)
- R Amazona arausiaca Red-necked Parrot Dominica
- K Amazona barbadensis
   Yellow-shouldered Parrot
   Aruba (ex?); Netherlands Antilles: Bonaire;
   Venezuela
- E Amazona brasiliensis
  Red-tailed Parrot
  Brazil
- R Amazona guildingii Saint Vincent Parrot Saint Vincent
- E Amazona imperialis Imperial Parrot Dominica
- V Amazona oratrix
  Yellow-headed Parrot
  Belize; Guatemala?; Mexico
  [Puerto Rico]
- V/R Amazona pretrei
  Red-spectacled Parrot
  Argentina; Brazil; Paraguay?; Uruguay
- V/R Amazona rhodocorytha Red-browed Parrot Brazil
- R Amazona versicolor Saint Lucia Parrot Saint Lucia
- V/R Amazona vinacea
  Vinaceous Parrot
  Argentina; Brazil; Paraguay
- V Amazona viridigenalis
  Red-crowned Parrot
  Mexico
  [Puerto Rico; USA]
- E Amazona vittata
  Puerto Rican Parrot
  Puerto Rico
- E/Ex Anodorhynchus glaucus Glaucous Macaw Argentina; Brazil; Paraguay
- V/R Anodorhynchus hyacinthinus Hyacinth Macaw Bolivia; Brazil; Paraguay

- E Anodorhynchus leari Indigo Macaw Brazil
- E Ara glaucogularis
  (A. caninde misapplied)
  Blue-throated Macaw
  Argentina?; Bolivia; Paraguay?
- V Ara rubrogenys Red-fronted Macaw Bolivia
- V Aratinga auricapilla Golden-capped Parakeet Brazil
- V Aratinga euops Cuban Parakeet Cuba
- V Aratinga guarouba (Guaruba guarouba) Golden Parakeet Brazil
- V/R Bolborhynchus ferrugineifrons Rufous-fronted Parakeet Colombia
- E Cyanopsitta spixii
  Little Blue Macaw
  Brazil
- R Cyanoramphus unicolor
  Antipodes Parakeet
  New Zealand: Antipodes Islands
- V Forpus xanthops Yellow-faced Parrotlet Peru
- V/R Hapalopsittaca amazonina Rusty-faced Parrot Colombia; Venezuela
- E Hapalopsittaca fuertesi
  (H. amazonina fuertesi)
  Indigo-winged Parrot
  Colombia
- E Hapalopsittaca pyrrhops (H. amazonina pyrrhops) Red-faced Parrot Ecuador, Peru
- V/R Leptosittaca branickii Golden-plumed Parakeet Colombia; Ecuador; Peru
- V Loriculus catamene
  Sangihe Hanging-Parrot
  Indonesia: Sangihe

- R Neophema chrysogaster
  Orange-bellied Parrot
  Australia: Tasmania. \* Australia
- R Neophema splendida Scarlet-chested Parrot Australia
- E Ognorhynchus icterotis Yellow-eared Parrot Colombia; Ecuador
- I Pezoporus occidentalis
  (Geopsittacus occidentalis)
  Night Parrot
  Australia (ex?)
- E Pezoporus wallicus Ground Parrot Australia
- K Polytelis alexandrae
  Alexandra's Parrot
  Australia
- R Prioniturus luconensis
  Green Racquet-tail
  Philippines: Luzon, Marinduque
- I Prioniturus mada Buru Racquet-tail Indonesia: Buru
- R Psephotus chrysopterygius Golden-shouldered Parrot Australia
- K Psephotus dissimilis Hooded Parrot Australia
- E Psephotus pulcherrimus
  Paradise Parrot
  Australia (ex?)
- I Psittacula caniceps
  Nicobar Parakeet
  India: Nicobar Islands
- E Psittacula echo Mauritius Parakeet Mauritius
- I Psittacula intermedia Intermediate Parakeet India?
- R Psittaculirostris salvadorii Salvadori's Fig-Parrot Indonesia: Irian Jaya
- K Pyrrhura albipectus White-necked Parakeet Ecuador

- V/R Pyrrhura calliptera
  Brown-breasted Parakeet
  Colombia
- R Pyrrhura cruentata
  Blue-throated Parakeet
  Brazil
- V/R Pyrrhura orcesi El Oro Parakeet Ecuador
- V Rhynchopsitta pachyrhyncha Thick-billed Parrot Mexico [USA]
- V Rhynchopsitta terrisi Maroon-fronted Parrot Mexico
- E Strigops habroptilus
  Kakapo
  New Zealand: South Island, Stewart Island
- V/R Touit melanonotus

  Brown-backed Parrotlet

  Brazil
- K Touit stictoptera
  Spot-winged Parrotlet
  Colombia; Ecuador; Peru
- V/R Touit surda Golden-tailed Parrotlet Brazil
- V/R Triclaria malachitacea Blue-bellied Parrot Argentina; Brazil

# Order CUCULIFORMES

### Family MUSOPHAGIDAE

- E Tauraco bannermani
  Bannerman's Turaco
  Cameroon
- R Tauraco ruspolii Ruspoli's Turaco Ethiopia

### Family CUCULIDAE

- K Carpococcyx radiceus
   Sunda Ground-Cuckoo
   Brunei; Indonesia: Kalimantan, Sumatra;
   Malaysia: Sabah, Sarawak
- E Centropus chlororhynchus Green-billed Coucal Sri Lanka

V Centropus nigrorufus Sunda Coucal

Indonesia: Java, Sumatra?

R Centropus rectunguis

Short-toed Coucal

Brunei; Indonesia: Kalimantan, Sumatra; Malaysia: Peninsular Malaysia, Sabah, Sarawak

I Centropus steerii
Black-hooded Coucal
Philippines: Mindoro

I Chrysococcyx rufomerus Green-cheeked Bronze-Cuckoo Indonesia; Damar, Romang

I Hyetornis rufigularis
Rufous-breasted Cuckoo
Dominican Republic; Haiti

V Neomorphus radiolosus Banded Ground-Cuckoo Colombia; Ecuador

V Phaenicophaeus pyrrhocephalus Red-faced Malkoha Sri Lanka

#### Order STRIGIFORMES

#### Family TYTONIDAE

I Phodilus prigoginei Congo Bay-Owl Burundi?; Zaire

K Tyto aurantia
Bismarck Masked-Owl
Papua New Guinea: New Britain

I Tyto inexspectata
Minahassa Masked-Owl
Indonesia: Sulawesi

I Tyto nigrobrunnea
Taliabu Masked-Owl
Indonesia: Taliabu

I Tyto sororcula
Lesser Masked-Owl
Indonesia: Buru, Tanimbar Islands

I Tyto soumagnei
Madagascar Red Owl
Madagascar (ex?)

## Family STRIGIDAE

I Athene blewitti
Forest Owlet
India (ex?)

R Glaucidium albertinum
Albertine Owlet
Rwanda: Zaire

R Ketupa blakistoni (Bubo blakistoni) Blakiston's Fish-Owl China; Japan: Hokkaido; Russia

R Otus angelinae Javan Scops-Owl Indonesia: Java

R Otus hartlaubi São Tomé Scops-Owl São Tomé and Príncipe: São Tomé, Príncipe?

E Otus ireneae Sokoke Scops-Owl Kenya: Tanzania?

R Otus mindorensis Mindoro Scops-Owl Philippines: Mindoro

R Otus pauliani Comoro Scops-Owl Comoros: Grand Comoro

Otus sagittatus
 White-fronted Scops-Owl
 Indonesia: Sumatra?; Malaysia: Peninsular
 Malaysia; Myanmar; Thailand

R Scotopelia ussheri
Rufous Fishing-Owl
Côte d'Ivoire; Ghana; Guinea; Liberia; Sierra
Leone

K Xenoglaux loweryi Long-whiskered Owlet Peru

# Order CAPRIMULGIFORMES

## Family PODARGIDAE

K Batrachostomus harterti
Dulit Frogmouth
Indonesia: Kalimantan; Malaysia: Sarawak

#### Family CAPRIMULGIDAE

E Caprimulgus candicans
White-winged Nightjar
Brazil; Paraguay?

I Caprimulgus centralasicus Vaurie's Nightjar China

I Caprimulgus maculosus
Cayenne Nightjar
French Guiana

- R Caprimulgus noctitherus
  Puerto Rican Nightjar
  Puerto Rico
- I Caprimulgus pulchellus Salvadori's Nightjar Indonesia: Java, Sumatra
- K Eleothreptus anomalus Sickle-winged Nightjar Argentina; Brazil; Paraguay
- I Eurostopodus diabolicus Satanic Eared-Nightjar Indonesia: Sulawesi
- E/Ex Siphonorhis americanus Jamaican Poorwill Jamaica

#### Order APODIFORMES

#### Family APODIDAE

- I Apus acuticauda
  Dark-rumped Swift
  India
- R Collocalia elaphra Seychelles Swiftlet Seychelles
- V Collocatia leucophaeus (Aerodramus leucophaeus) Tahiti Swiftlet French Polynesia: Tahiti
- R Collocalia sawtelli
  (Aerodramus sawtelli)
  Atiu Swiftlet
  Cook Islands: Atiu
- I Cypseloides lemosi
  White-chested Swift
  Colombia; Ecuador?
- I Hydrochous gigas
   Waterfall Swift
   Indonesia: Java, Kalimantan?, Sumatra;
   Malaysia: Peninsular Malaysia, Sabah?,
   Sarawak?
- I Schoutedenapus schoutedeni Schouteden's Swift Zaire

## Family TROCHILIDAE

E Acestrura berlepschi Esmeraldas Woodstar Ecuador

- E Acestrura bombus Little Woodstar Ecuador, Peru
- I Aglaeactis aliciae
  Purple-backed Sunbeam
  Peru
- V Amazilia boucardi Mangrove Hummingbird Costa Rica
- V Amazilia castaneiventris Chestnut-bellied Hummingbird Colombia
- V Amazilia distans Tachira Emerald Venezuela
- E Amazilia luciae Honduran Emerald Honduras
- V/R Campylopterus ensipennis
  White-tailed Sabrewing
  Trinidad and Tobago: Tobago; Venezuela
- V/R Coeligena prunellei Black Inca Colombia
- E/Ex Eriocnemis godini
  Turquoise-throated Puffleg
  Colombia; Ecuador
- R Eriocnemis mirabilis
  Colourful Puffleg
  Colombia
- E Eriocnemis nigrivestis
  Black-breasted Puffleg
  Ecuador
- K Eulidia yarrellii Chilean Woodstar Chile; Peru
- V Eupherusa cyanophrys
  Blue-capped Hummingbird
  Mexico
- V Eupherusa poliocerca
  White-tailed Hummingbird
  Mexico
- V/R Haplophaedia lugens Hoary Puffleg Colombia; Ecuador
- K Heliangelus regalis Royal Sunangel Peru

V/R Hylonympha macrocerca Scissor-tailed Hummingbird Venezuela

I Lepidopyga lilliae
Sapphire-bellied Hummingbird
Colombia

V Loddigesia mirabilis Marvelous Spatuletail Peru

E Lophornis brachylopha
Short-crested Coquette
Mexico

R Metallura baroni Violet-throated Metaltail Ecuador

R Metallura odomae Neblina Metaltail Peru

I Popelairia letitiae Coppery Thorntail Bolivia?

V/R Ramphodon dohrnii (Glaucis dohrnii) Hook-billed Hermit Brazil

V Selasphorus ardens Glow-throated Hummingbird Panama

V/R Sephanoides fernandensis Juan Fernandez Firecrown Chile: Juan Fernandez Islands

V Taphrolesbia griseiventris Grey-bellied Comet Peru

I Thalurania ridgwayi
Mexican Woodnymph
Mexico

# Order TROGONIFORMES

## Family TROGONIDAE

I Euptilotis neoxenus
Eared Trogon
Mexico; USA

## Order CORACIIFORMES

# Family ALCEDINIDAE

I Actenoides bougainvillei
(Halcyon bougainvillei)
Moustached Kingfisher
Papua New Guinea: Bougainville; Solomon
Islands: Guadalcanal (ex?)

V Actenoides hombroni (Halcyon hombroni) Blue-capped Kingfisher Philippines: Mindanao

I Alcedo hercules Blyth's Kingfisher Bangladesh; Bhutan; China; Laos; India; Myanmar; Nepal?; Viet Nam

V Tanysiptera riedelii
Biak Paradise-Kingfisher
Indonesia

V Todirhamphus australasia
(Halcyon australasia)
Cinnamon-banded Kingfisher
Indonesia: Lombok, Sumba, Timor, Wetar and
small islands east to Tanimbar

R Todirhamphus gambieri
(Halcyon gambieri)
Tuamotu Kingfisher
French Polynesia; Tuamotu Archipelago (Niau)

V Todirhamphus godeffroyi
(Halcyon godeffroyi)
Marquesan Kingfisher
French Polynesia: Marquesas Islands (Hivaoa,
Tahnata)

R Todirhamphus ruficollaris (Halcyon ruficollaris, H. mangaia) Mangaia Kingfisher Cook Islands: Mangaia

## Family MOMOTIDAE

K Electron carinatum
 Keel-billed Motmot
 Belize; Costa Rica; Guatemala; Honduras;
 Mexico; Nicaragua

#### Family BRACHYPTERACIIDAE

R Atelornis crossleyi
Rufous-headed Ground-Roller
Madagascar

- R Brachypteracias leptosomus Short-legged Ground-Roller Madagascar
- R Brachypteracias squamigera Scaly Ground-Roller Madagascar
- R Uratelornis chimaera Long-tailed Ground-Roller Madagascar

## Family BUCEROTIDAE

- R Aceros corrugatus Wrinkled Hornbill Brunei; Indonesia: Batu Islands, Kalimantan, Sumatra; Malaysia: Peninsular Malaysia, Sabah, Sarawak, Thailand
- V Aceros everetti (Rhyticeros everetti) Sumba Hornbill Indonesia: Sumba
- R Aceros narcondami Narcondam Hornbill India: Narcondam
- R Aceros nipalensis Rufous-necked Hornbill Bangladesh; Bhutan; China; Laos; India; Myanmar; Nepal (ex?); Thailand; Viet Nam
- Aceros subruficollis Plain-pouched Hornbill India; Indonesia: Sumatra; Myanmar; Thailand
- R Anthracoceros montani Sulu Hornbill Philippines: Jolo, Tawitawi
- Buceros vigil (Rhinoplax vigil) Helmeted Hornbill Brunei; Indonesia: Kalimantan, Sumatra; Malaysia: Peninsular Malaysia. Sabah.

Sarawak; Myanmar, Thailand

#### Order PICIFORMES

Ι

## Family GALBULIDAE

- Galbula pastazae Coppery-chested Jacamar Brazil?; Colombia; Ecuador
- $\mathbf{E}$ Jacamaralcyon tridactyla Three-toed Jacamar Brazil

#### Family CAPITONIDAE

- V/R Capito hypoleucus White-mantled Barbet Colombia
- Megalaima javensis R Black-banded Barbet Indonesia: Java
- Pogoniulus makawai T White-chested Tinkerbird Zambia

## Family INDICATORIDAE

Melignomon eisentrauti Yellow-footed Honeyguide Cameroon; Côte d'Ivoire?; Ghana; Guinea?; Liberia

## Family RAMPHASTIDAE

Aulacorhynchus huallagae Yellow-browed Toucanet Peni

#### Family PICIDAE

- E/Ex Campephilus imperialis Imperial Woodpecker Mexico
- E/Ex Campephilus principalis Ivory-billed Woodpecker Cuba; USA
- I Colaptes fernandinae Fernandina's Flicker Cuba
- V/R Dryocopus galeatus Helmeted Woodpecker Argentina; Brazil; Paraguay
- E Picoides borealis Red-cockaded Woodpecker **USA**
- T Picus rabieri Red-collared Woodpecker China; Laos; Viet Nam
- E Sapheopipo noguchii Okinawa Woodpecker Japan: Okinawa

# Order PASSERIFORMES

## Family EURYLAIMIDAE

Pseudocalyptomena graueri Grauer's Broadbill Uganda; Zaire

#### Family DENDROCOLAPTIDAE

V Xiphocolaptes falcirostris (includes X. franciscanus) Moustached Woodcreeper Brazil

#### Family FURNARIIDAE

- K Aphrastura masafuerae Mas Afuera Rayadito Chile: Juan Fernandez Islands
- K Asthenes anthoides
  Austral Canastero
  Argentina; Chile
- I Asthenes berlepschi
  Berlepsch's Canastero
  Bolivia
- I Asthenes luizae Cipó Canastero Brazil
- E Automolus ruficollis
  Rufous-necked Foliage-gleaner
  Ecuador: Peru
- V Cinclodes palliatus
  White-bellied Cinclodes
  Peru
- I Hylocryptus erythrocephalus (Automolus erythrocephalus) Henna-hooded Foliage-gleaner Ecuador, Peru
- E Leptasthenura xenothorax White-browed Tit-Spinetail Peru
- K Megaxenops parnaguae Great Xenops Brazil
- E *Philydor novaesi*Alagoas Foliage-gleaner
  Brazil
- V/R Premnoplex tatei
  (Margarornis tatei)
  White-throated Barbtail
  Venezuela
- E Simoxenops striatus Bolivian Recurvebill Bolivia
- K Synallaxis cherriei
  Chestnut-throated Spinetail
  Brazil; Colombia; Ecuador; Peru

- I Synallaxis courseni Apurimac Spinetail Peru
- V/R Synallaxis infuscata Pinto's Spinetail Brazil
- V Synallaxis kollari
  Hoary-throated Spinetail
  Brazil
- E Synallaxis tithys
  Blackish-headed Spinetail
  Ecuador, Peru
- V Synallaxis zimmeri
  Russet-bellied Spinetail
  Peru
- V/R Thripophaga berlepschi Russet-mantled Softtail Peru
- V Thripophaga cherriei Orinoco Softtail Venezuela
- V/R Thripophaga macroura Striated Softtail Brazil

#### Family FORMICARIIDAE

- V/R Biatas nigropectus
  White-bearded Antshrike
  Argentina; Brazil
- V Cercomacra carbonaria Rio Branco Antbird Brazil
- E Clytoctantes alixii
  Recurve-billed Bushbird
  Colombia; Venezuela
- I Clytoctantes atrogularis
  Rondônia Bushbird
  Brazil
- V/R Dysithamnus occidentalis
  Bicolored Antvireo
  Colombia; Ecuador
- V/R Dysithamnus plumbeus (Thamnomanes plumbeus) Plumbeous Antvireo Brazil
- V Formicarius rufifrons Rufous-fronted Antthrush Peru

- E Formicivora erythronotos

  Black-hooded Antwren

  Brazil
- V Formicivora iheringi Narrow-billed Antwren Brazil
- E Formicivora littoralis
  Restinga Antwren
  Brazil
- E/Ex Grallaria alleni Moustached Antpitta Colombia
- E Grallaria chthonia
  Tachira Antpitta
  Venezuela
- K Grallaria gigantea
  Giant Antpitta
  Colombia; Ecuador
- E/Ex Grallaria milleri
  Brown-banded Antpitta
  Colombia
- I Grallaria rufocinerea
  Bicolored Antpitta
  Colombia
- V/R Grallaricula cucullata Hooded Antpitta Colombia; Venezuela
- E Herpsilochmus parkeri Ash-throated Antwren Peru
- V Herpsilochmus pectoralis Pectoral Antwren Brazil
- E Myrmeciza griseiceps Grey-headed Antbird Ecuador, Peru
- V/R Myrmeciza ruficauda Scalloped Antbird Brazil
- I Myrmotherula fluminensis
  Rio de Janeiro Antwren
  Brazil
- V/R Myrmotherula grisea Ashy Antwren Bolivia
- E Myrmotherula snowi Alagoas Antwren Brazil

- I Pithys castanea
  White-masked Antbird
  Peru
- E Pyriglena atra
  Fringe-backed Fire-eye
  Brazil
- V Rhopornis ardesiaca Slender Antbird Brazil
- V Terenura sharpei
  Yellow-rumped Antwren
  Bolivia; Peru
- E Terenura sicki Alagoas Antwren Brazil
- K Xenornis setifrons Speckled Antshrike Colombia: Panama

## Family RHINOCRYPTIDAE

- I Merulaxis stresemanni Stresemann's Bristlefront Brazil
- R Scytalopus novacapitalis Brasilia Tapaculo Brazil
- E Scytalopus psychopompus Chestnut-sided Tapaculo Brazil

#### Family COTINGIDAE

- E/Ex Calyptura cristata Kinglet Calyptura Brazil
- V Carpodectes antoniae Yellow-billed Cotinga Costa Rica: Panama
- V/R Carpornis melanocephalus Black-headed Berryeater Brazil
- V/R Cephalopterus glabricollis Bare-necked Umbrellabird Costa Rica: Panama
- R Cotinga maculata
  Banded Cotinga
  Brazil
- V/R Iodopleura pipra
  Buff-throated Purpletuft
  Brazil

- V/R Lipaugus lanioides Cinnamon-vented Piha Brazil
- E Pachyramphus spodiurus
  Slaty Becard
  Ecuador: Peru
- R Tijuca condita
  Grey-winged Cotinga
  Brazil
- R Xipholena atropurpurea
  White-winged Cotinga
  Brazil
- K Zaratornis stresemanni (Ampelion stresemanni) White-cheeked Cotinga Peru

## Family PIPRIDAE

- I Pipra vilasboasi Golden-crowned Manakin Brazil
- V/R Piprites pileatus
  Black-capped Piprites
  Argentina; Brazil

# Family TYRANNIDAE

- V/R Agriornis andicola
  (A. albicauda)
  White-tailed Shrike-Tyrant
  Argentina; Bolivia; Chile; Ecuador; Peru
- V Alectrurus risora
  (Yetapa risora)
  Strange-tailed Tyrant
  Argentina; Brazil (ex?); Paraguay; Uruguay
  (ex?)
- E Anairetes alpinus
  Ash-breasted Tit-Tyrant
  Bolivia; Peru
- E Attila torridus
  Ochraceous Attila
  Colombia; Ecuador; Peru
- V/R Lathrotriccus griseipectus (Empidonax griseipectus) Grey-breasted Flycatcher Ecuador, Peru
- I Euscarthmus rufomarginatus Rufous-sided Pygmy-Tyrant Bolivia; Brazil; Suriname
- V Hemitriccus cinnamomeipectus Cinnamon-breasted Tody-Tyrant Peru

- R Hemitriccus furcatus (Ceratotriccus furcatus) Fork-tailed Tody-Tyrant Brazil
- I Hemitriccus kaempferi (Idioptilon kaempferi) Kaempfer's Tody-Tyrant Brazil
- V/R Hemitriccus mirandae Buff-breasted Tody-Tyrant Brazil
- E Phylloscartes ceciliae Alagoas Tyrannulet Brazil
- I Phylloscartes lanyoni Antioquia Bristle-Tyrant Colombia
- V/R Phylloscartes paulistus
  São Paulo Tyrannulet
  Argentina?; Brazil; Paraguay
- V Phylloscartes roquettei Minas Gerais Tyrannulet Brazil
- V/R Platyrinchus leucoryphus Russet-winged Spadebill Argentina?; Brazil; Paraguay
- V/R Pseudocolopteryx dinellianus
  Dinelli's Doradito
  Argentina; Bolivia; Paraguay
- I Todirostrum senex
  Buff-cheeked Tody-Flycatcher
  Brazil
- I Tyrannus cubensis
  Giant Kingbird
  Cuba; Turks and Caicos Islands

#### Family PHYTOTOMIDAE

E Phytotoma raimondii
Peruvian Plantcutter
Peru

## Family PITTIDAE

- I Pitta anerythra
  Black-faced Pitta
  Papua New Guinea: Bougainville (ex?);
  Solomon Islands: Santa Isabel (ex?)
- R Pitta elliotii
  Bar-bellied Pitta
  Cambodia; Laos; Thailand; Viet Nam

E Pitta gurneyi
Gurney's Pitta
Myanmar (ex?); Thailand

I Pitta kochi
Whiskered Pitta
Philippines: Luzon

R Pitta nympha
Fairy Pitta
China; Japan; Korea Republic: Cheju Do and nearby islands; Taiwan. \* Indonesia:
Kalimantan; Malaysia: Sarawak; Viet Nam

E Pitta schneideri
Schneider's Pitta
Indonesia: Sumatra

R Pitta steerii
Azure-breasted Pitta
Philippines: Bohol, Leyte, Mindanao, Samar

I Pitta superba Superb Pitta Papua New Guinea: Manus

## Family XENICIDAE

E Xenicus longipes
Bush Wren
New Zealand (ex?)

## Family PHILEPITTIDAE

I Neodrepanis hypoxanthus Yellow bellied Asity Madagascar

#### Family ATRICHORNITHIDAE

E Atrichornis clamosus
Noisy Scrub-bird
Australia

R Atrichornis rufescens Rufous Scrub-bird Australia

## Family ALAUDIDAE

I Spizocorys fringillaris Botha's Lark South Africa

E Alauda razae
Raso Lark
Cape Verde: Raso Island

I Heteromirafra archeri Archer's Lark Somalia

I Heteromirafra ruddi
Rudd's Lark
Lesotho; South Africa; Swaziland

I Heteromirafra sidamoensis Sidamo Lark Ethiopia

K Mirafra ashi Ash's Lark Somalia

K Mirafra degodiensis Degodi Lark Ethiopia

## Family HIRUNDINIDAE

R Hirundo megaensis White-tailed Swallow Ethiopia

K Hirundo perdita Red Sea Swallow Sudan?

I Pseudochelidon sirintarae White-eyed River-Martin Thailand

## Family MOTACILLIDAE

K Anthus chloris
Yellow-breasted Pipit
Lesotho; South Africa

I Anthus nattereri
Ochre-breasted Pipit
Argentina; Brazil; Paraguay

V Anthus sokokensis Sokoke Pipit Kenya; Tanzania (ex?)

#### Family CAMPEPHAGIDAE

V Campephaga lobata
Ghana Cuckooshrike
Côte d'Ivoire; Ghana; Liberia; Sierra Leone

R Coracina coerulescens
Blackish Cuckooshrike
Philippines: Luzon

R Coracina sula Sula Cicadabird Indonesia; Sula Islands

V Coracina newtoni Réunion Cuckooshrike Réunion

R Coracina ostenta
White-winged Cuckooshrike
Philippines: Guimaras, Negros, Panay

R Coracina schistacea
Slaty Cuckooshrike
Indonesia: Banggai, Peleng, Sula

V Coracina typica Mauritius Cuckooshrike Mauritius

## Family PYCNONOTIDAE

- V Chlorocichla prigoginei Prigogine's Greenbul Zaire
- V Criniger olivaceus
  Yellow-bearded Bulbul
  Côte d'Ivoire; Ghana; Guinea; Liberia;
  Senegal; Sierra Leone
- I Ixos siquijorensis
  (Hypsipetes siquijorensis)
  Streak-breasted Bulbul
  Philippines: Romblon, Siquijor, Tablas
- R Phyllastrephus apperti Appert's Greenbul Madagascar
- R Phyllastrephus cinereiceps Grey-crowned Greenbul Madagascar
- K Phyllastrephus leucolepis Liberian Greenbul Liberia
- R Phyllastrephus tenebrosus
  Dusky Greenbul
  Madagascar
- I Pycnonotus nieuwenhuisii
  Blue-wattled Bulbul
  Indonesia: Kalimantan, Sumatra

# Family LANIIDAE

- K Laniarius liberatus Bulo Burti Boubou Somalia
- I Lanius newtoni
  Newton's Fiscal Shrike
  São Tomé and Príncipe: São Tomé (ex?)
- R Malaconotus alius Uluguru Bushshrike Tanzania
- I Malaconotus monteiri

  Monteiro's Bushshrike

  Angola; Cameroon (ex?); Келуа
- R Malaconotus gladiator Green-breasted Bushshrike Cameroon; Nigeria?

- I Prionops gabela
  Angola Helmetshrike
  Angola
- I Telophorus kupeensis (Malaconotus kupeensis) Serle's Bushshrike Cameroon

## Family VANGIDAE

- R Xenopirostris damii Van Dam's Vanga Madagascar
- R Xenopirostris polleni Pollen's Vanga Madagascar

## Family CINCLIDAE

K Cinclus schulzi
Rufous-throated Dipper
Argentina; Bolivia

#### Family TROGLODYTIDAE

- V/R Hylorchilus sumichrasti (Catherpes sumichrasti) Slender-billed Wren Mexico
- R Cistothorus apolinari Apolinar's Wren Colombia
- V/R Ferminia cerverai Zapata Wren Cuba
- I Thryothorus nicefori Niceforo's Wren Colombia

## Family MIMIDAE

- E Mimodes graysoni Socorro Mockingbird Mexico: Socorro
- E Nesomimus trifasciatus
  Charles Mockingbird
  Ecuador: Galapagos Islands: Champion,
  Gardner
- E Ramphocinclus brachyurus
  White-breasted Thrasher
  Martinique; Saint Lucia

## Family MUSCICAPIDAE

V Acrocephalus familiaris (includes A. kingi) Millerbird USA: Hawaiian Islands (Nihoa) K Acrocephalus paludicola

Aquatic Warbler

Austria; Belarus; Germany; Hungary; Latvia; Lithuania; Moldova; Poland; Russia; Ukraine. \* France; Iran; Italy; Latvia; Mali; Morocco; Netherlands; Portugal; Senegal; Spain; Switzerland; United Kingdom

- E Acrocephalus rehsei Nauru Reed-Warbler Nauru
- R Acrocephalus sorghophilus Streaked Reed-Warbler China. \* Philippines
- V Alcippe variegaticeps Gold-fronted Fulvetta China
- E Alethe choloensis
  Cholo Alethe
  Malawi; Mozambique
- I Amaurocichla bocagii
  Bocage's Longbill
  São Tomé and Príncipe: São Tomé
- K Amytornis barbatus Grey Grasswren Australia
- K Amytornis dorotheae Carpentarian Grasswren Australia
- I Amytornis goyderi Eyrean Grasswren Australia
- K Amytornis textilis
  Thick-billed Grasswren
  Australia
- R Apalis argentea
  Kungwe Apalis
  Burundi; Rwanda; Tanzania; Zaire
- K Apalis chariessa
  White-winged Apalis
  Kenya (ex?); Malawi; Mozambique; Tanzania
- R Apalis kaboboensis Kabobo Apalis Zaire
- K Apalis karamojae Karamoja Apalis Tanzania; Uganda
- K Aphelocephala pectoralis
  Chestnut-breasted Whiteface
  Australia

- R Arcanator orostruthus
  (Modulatrix orostruthus)
  Dapple-throat
  Mozambique; Tanzania
- K Batis minima
  Verreaux's Batis
  Cameroon; Gabon
- E Bebrornis rodericanus (Acrocephalus rodericanus) Rodriguesz Brush-Warbler Mauritius: Rodrigues
- R Bebrornis sechellensis (Acrocephalus sechellensis) Seychelles Brush-Warbler Seychelles: Cousin
- I Brachypteryx hyperythra Rusty-bellied Shortwing China; India
- K Bradypterus grandis Ja River Scrub-Warbler Cameroon; Gabon
- V Bradypterus graueri Grauer's Scrub-Warbler Burundi; Rwanda; Uganda; Zaire
- R Bradypterus major

  Long-billed Bush-Warbler
  China; India: Pakistan
- K Chaetornis striatus
   Bristled Grassbird
   Bangladesh; India; Nepal; Pakistan
- R Chloropeta gracilirostris
  Thin-billed Flycatcher-Warbler
  Burundi; Kenya; Rwanda; Uganda; Zaire;
  Zambia
- V Chrysomma altirostre
  (Moupinia altirostris)
  Jerdon's Babbler
  India; Myanmar (ex?); Nepal; Pakistan
- I Cisticola haesitatus
  Island Cisticola
  Yemen: Socotra
- K Cisticola restrictus
  Tana River Cisticola
  Kenya; Somalia?
- R Clytorhynchus hamlini
  Rennell Shrikebill
  Solomon Islands: Rennell

- R Cochoa azurea Javan Cochoa Indonesia: Java
- I Cochoa beccarii Sumatran Cochoa Indonesia: Sumatra
- E Copsychus cebuensis
  Black Shama
  Philippines: Cebu
- E Copsychus sechellarum
  Seychelles Magpie-Robin
  Seychelles: Aride, Fregate
- I Cossypha heinrichi
  White-headed Robin-Chat
  Angola; Zaire
- I Crocias langbianis
  Grey-crowned Crocias
  Viet Nam
- I Crossleyia xanthophrys Yellow-browed Oxylabes Madagascar
- R Cyornis herioti
  Blue-breasted Flycatcher
  Philippines: Catanduanes, Luzon
- I Cyornis ruckii
  Rueck's Blue-Flycatcher
  Indonesia: Sumatra (ex?); Malaysia?:
  Peninsular Malaysia
- R Cyornis sanfordi Matinan Flycatcher Indonesia: Sulawesi
- V Dasyornis brachypterus
  Eastern Bristlebird
  Australia
- R Dasyornis longirostris
  Western Bristlebird
  Australia
- R Eremomela turneri
  Turner's Eremomela
  Kenya; Uganda; Zaire
- K Ficedula bonthaina
  Lompobattang Flycatcher
  Indonesia: Sulawesi
- V Ficedula harterti Sumba Flycatcher Indonesia: Sumba
- I Ficedula henrici
  Damar Flycatcher
  Indonesia: Damar

- R Ficedula timorensis
  Black-banded Flycatcher
  Indonesia: Timor
- I Garrulax bieti
  White-speckled Laughingthrush
  China
- V Garrulax cinereifrons
  Ashy-headed Laughingthrush
  Sri Lanka
- I Garrulax milleti
  Black-hooded Laughingthrush
  Viet Nam
- K Garrulax sukatschewi Snowy-cheeked Laughingthrush China
- I Garrulax yersini
  Collared Laughingthrush
  Viet Nam
- R Humblotia flavirostris Humblot's Flycatcher Comoros: Grand Comoro
- K Hypothymis coelestis
   Celestial Monarch
   Philippines: Basilan, Dinagat, Luzor
   Mindanao, Negros, Samar, Sibuyan
- R Hypothymis helenae
  Short-crested Monarch
  Philippines: Dinagat, Luzon, Mindanao, North
  Camiguin, Polillo Islands, Samar
- I Jabouilleia danjoui Shon-tailed Scimitar-Babbler Viet Nam
- R Kupeornis gilberti (Lioptilus gilberti) White-throated Mountain-Babbler Cameroon; Nigeria
- R Liocichla omeiensis
  Omei Shan Liocichla
  China
- I Luscinia obscura
  (Erithacus obscurus)
  Black-throated Blue Robin
  China
- I Luscinia ruficeps (Erithacus ruficeps) Rufous-headed Robin China

- I Macrosphenus pulitzeri
  Pulitzer's Longbill
  Angola
- I Malacocincla perspicillata (Trichastoma perspicillatum) Black-browed Babbler Indonesia: Kalimantan
- I Malacocincla vanderbilti (Trichastoma vanderbilti) Vanderbilt's Babbler Indonesia: Sumatra
- K Malurus coronatus
  Purple-crowned Fairy-wren
  Australia
- R Megalurus albolimbatus Marsh Grassbird China; Japan; Mongolia?
- K Megalurus pryeri Marsh Grassbird, Japanese Marsh Warbler China; Japan; Mongolia?
- I Melaenornis annamarulae West African Black-Flycatcher Côte d'Ivoire; Liberia
- R Metabolus rugensis
  Chuuk Monarch
  Federated States of Micronesia: Chuuk
- I Monarcha boanensis
  Black-chinned Monarch
  Indonesia: Boano
- R Monarcha brehmii Biak Monarch Indonesia: Biak
- I Monarcha everetti
  White-tipped Monarch
  Indonesia: Tanahjampea
- R Muscicapa lendu Chapin's Alseonax Kenya; Uganda; Zaire
- E Myadestes lanaiensis
  Olomao
  USA: Hawaiian Islands (Molokai)
- E Myadestes myadestinus Kamao USA: Hawaiian Islands (Kauai)
- E Myadestes palmeri
  Puaiohi
  USA: Hawaiian Islands (Kauai)

- R Myiagra atra
  Biak Flycatcher
  Indonesia: Biak, Numfor
- E Myiagra freycineti Guam Flycatcher Guam
- V Myiophonus blighi Ceylon Whistling-Thrush Sri Lanka
- K Napothera rabori Rabor's Wren-Babbler Philippines: Luzon
- E Nesillas aldabrana Aldabra Bush-warbler Seychelles: Aldabra (ex?)
- I Newtonia fanovanae Red-tailed Newtonia Madagascar
- R Orthotomus moreaui
  (Apalis moreaui)
  Long-billed Tailorbird
  Mozambique; Tanzania
- R Pachycephala meyeri Vogelkop Whistler Indonesia: Irian Jaya
- K Pachycephala rufogularis Red-lored Whistler Australia
- R Paradoxornis davidianus Short-tailed Parrotbill China; Laos; Myanmar, Thailand; Viet Nam.
- I Paradoxornis flavirostris
  Black-breasted Parrotbill
  Bangladesh; India; Myanmar; Nepal (ex?)
- K Paradoxornis przewalskii Rusty-throated Parrotbill China
- R Paradoxornis ruficeps
  Rufous-headed Parrotbill
  Bangladesh; Bhutan; China; India; Laos;
  Myanmar; Viet Nam
- R Paradoxornis zappeyi Grey-hooded Parrotbill China
- K Pellorneum palustre Marsh Babbler Bangladesh; India

Petroica traversi E

Chatham Robin

[Reintroduced to Mangere and Rangatira, Chatham Islands, New Zealand]

Ι Phylloscopus amoenus

Sombre Leaf-Warbler

Solomon Islands: Kulambangra

Picathartes gymnocephalus

White-necked Rockfowl

Côte d'Ivoire; Ghana; Guinea; Liberia; Sierra Leone

Picathartes oreas R

Grey-necked Rockfowl

Cameroon; Equatorial Guinea: Bioko. continental?; Gabon; Nigeria

Platysteira laticincta E

Banded Wattle-eye

Cameroon

Pomarea dimidiata

Rarotonga Monarch

Cook Islands: Rarotonga

R Pomarea iphis

Iphis Monarch

French Polynesia: Marquesas Islands (Uahuka)

V Pomarea mendozae

Marquesan Monarch

French Polynesia: Marquesas Islands (Tahuata (ex?), Nukuhiva (ex?), Mohotani, Uapoa, Hivaoa)

E Pomarea nigra

Tahiti Monarch

French Polynesia: Tahiti

R Pomarea whitnevi

Fatuhiya Monarch

French Polynesia: Fatuhiya

R Prinia burnesii

Rufous-vented Prinia

India; Pakistan

K Prinia fluviatilis

River Prinia

Cameroon; Chad; Mali; Senegal

K Pseudocossyphus bensoni

(Monticola bensoni)

Benson's Rock-Thrush

Madagascar

K Psophodes nigrogularis

Western Whipbird

Australia

V Rhinomyias albigularis

White-throated Jungle-Flycatcher

Philippines: Guimaras, Negros

Rhinomyias brunneata

Brown-chested Jungle-Flycatcher

China; India: Nicobar Islands. \* Malaysia?:

Peninsular Malaysia; Thailand

Rhinomyias colonus R

Henna-tailed Jungle-Flycatcher

Indonesia: Mangole, Peleng, Sanana, Sulawesi

Rhipidura malaitae

Malaita Fantail

Solomon Islands: Malaita (ex?)

Rhyacornis bicolor R

Luzon Water-Redstart

Philippines: Luzon

R Saxicola dacotiae

Canary Islands Chat

Spain: Canary Islands (Fuerteventura.

Alegranza?, Montaña Clara?)

R Saxicola gutturalis

White-bellied Bushchat

Indonesia: Roti, Semau, Timor

K Saxicola insignis

White-throated Bushchat

Kazakhstan; Mongolia; Russia. \* China?;

India: Nepal

V Saxicola macrorhyncha

White-browed Bushchat

India: Pakistan

R Scepomycter winifredae

(Bathmocercus winifredae)

Mrs Moreau's Warbler

Tanzania

Ι Sheppardia gabela

(Erithacus gabela)

Gabela Akalat

Angola

Sheppardia gunningi R

(Erithacus gunningi)

East Coast Akalat

Kenya; Malawi; Mozambique; Tanzania

R Sheppardia lowei

(Dryocichloides lowei)

Iringa Akalat

Tanzania

R Sheppardia montana

(Dryocichloides montanus)

Usambara Akalat

**Tanzania** 

- I Spelaeornis badeigularis Rusty-throated Wren-Babbler India
- K Spelaeornis caudatus
   Rufous-throated Wren-Babbler
   Bhutan; India; Nepal
- R Spelaeornis longicaudatus Tawny-breasted Wren-Babbler India
- R Sphenocichla humei Wedge-billed Wren-Babbler China; India; Myanmar
- V Stachyris grammiceps White-breasted Babbler Indonesia: Java
- R Stachyris herberti Sooty Babbler Laos
- V Stachyris nigrorum Negros Striped-Babbler Philippines: Negros, Panay
- R Stachyris oglei Snowy-throated Babbler India
- R Stachyris rodolphei Deignan's Babbler Thailand
- V Stachyris speciosa Flame-templed Babbler Philippines: Negros, Panay
- R Swynnertonia swynnertoni Swynnerton's Robin Mozambique; Tanzania; Zimbabwe
- R Terpsiphone corvina
  Seychelles Paradise-Flycatcher
  Seychelles: Felicite?, La Digue, Praslin
- I Trichastoma woodi (Leonardina woodi) Bagobo Babbler Philippines: Mindanao
- E Trichocichla rufa
  Long-legged Thicketbird
  Fiji: Viti Levu, Vanua Levu
- V Turdoides hindei Hinde's Pied-Babbler Kenya
- K Turdus feae
  Grey-sided Thrush
  China. \* India; Myanmar, Thailand

- K Turdus haplochrous Unicolored Thrush Bolivia
- K Turdus menachensis Yemen Thrush Saudi Arabia; Yemen
- R Turdus swalesi
  La Selle Thrush
  Dominican Republic; Haiti
- R Zoothera everetti Everett's Thrush Malaysia: Sabah, Sarawak
- R Zoothera guttata
  Spotted Ground-Thrush
  Malawi; Mozambique?; South Africa; Sudan;
  Zaire. \* Kenya; Tanzania
- I Zoothera kibalensis (Turdus kibalensis) Kibale Ground-Thrush Uganda
- R Zoothera machiki
  Fawn-breasted Thrush
  Indonesia: Larat, Yamdena
- R Zoothera major Amami Thrush Japan: Amami-o-shima
- R Zoothera oberlaenderi (Turdus oberlaenderi) Oberlaender's Ground-Thrush Uganda: Zaire
- R Zoothera peronii
  Orange-banded Thrush
  Indonesia: Babar, Damar, Romang, Timor,
  Wetar
- R Zoothera schistacea Slaty-backed Thrush Indonesia: Tanimbar Islands

## Family PARIDAE

- V Parus holsti Yellow Tit Taiwan
- V Parus nuchalis White-naped Tit India

#### Family SITTIDAE

R Sitta formosa
Beautiful Nuthatch
China; India; Laos; Myanmar; Thailand; Viet
Nam

- R Sitta ledanti Algerian Nuthatch Algeria
- R Sitta magna
  Giant Nuthatch
  China; Myanmar; Thailand
- I Sitta solangiae
  Yellow-billed Nuthatch
  China; Viet Nam
- I Sitta victoriae
  White-browed Nuthatch
  Myanmar
- V Sitta yunnanensis Yunnan Nuthatch China

## Family RHABDORNITHIDAE

R Rhabdornis grandis
Long-billed Rhabdornis
Philippines: Luzon

#### Family DICAEIDAE

- R Dicaeum everetti
   Brown-backed Flowerpecker
   Indonesia: Kalimantan, Natuna Islands, Riau
   Archipelago; Malaysia: Peninsular Malaysia,
   Sabah, Sarawak
- I Dicaeum quadricolor
  Four-coloured Flowerpecker
  Philippines: Cebu
- K Pardalotus quadragintus
   Forty-spotted Pardalote
   Australia: Tasmania

## Family NECTARINIIDAE

- V Aethopyga duyvenbodei Elegant Sunbird Indonesia: Sangihe, Siau
- R Anthreptes pallidigaster
  Amani Sunbird
  Kenya; Tanzania
- R Anthreptes rubritorques
  Banded Sunbird
  Tanzania
- V Nectarinia buettikoferi
  Apricot-breasted Sunbird
  Indonesia: Sumba
- E Nectarinia prigoginei
  Prigogine's Double-collared Sunbird
  Zaire

- R Nectarinia rockefelleri Rockefeller's Sunbird Zaire
- R Nectarinia rufipennis Rufous-winged Sunbird Tanzania
- R Nectarinia thomensis
  (Dreptes thomensis)
  São Tomé Sunbird
  São Tomé and Príncipe: São Tomé

## Family ZOSTEROPIDAE

- R Heleia muelleri Spot-breasted White-eye Indonesia: Timor
- I Madanga ruficoilis
  Rufous-throated White-eye
  Indonesia: Buru
- R Rukia longirostra
  Long-billed White-eye
  Federated States of Micronesia: Pohnpei
- E Rukia ruki Truk White-eye Federated States of Micronesia: Chuuk (Tol Island, Polle?, Onei?, Pata?)
- R Speirops brunneus
  Fernando Po Speirops
  Equatorial Guinea: Bioko
- R Speirops leucophoeus
  Príncipe Speirops
  São Tomé and Príncipe: Príncipe
- K Woodfordia lacertosa
  Sanford's White-eye
  Solomon Islands; Ndeni Island
- E Zosterops albogularis
  White-chested White-eye
  Norfolk Island
- R Zosterops anomalus Lemon-throated White-eye Indonesia: Sulawesi
- V Zosterops chloronothos Mauritius Olive White-eye Mauritius
- R Zosterops flavus
  Javan White-eye
  Indonesia: Java, Kalimantan; Malaysia:
  Sarawak
- R Zosterops kuehni Ambon Yellow White-eye Indonesia: Ambon, Seram?

- R Zosterops luteirostris
  Splendid White-eye
  Solomon Islands: Gizo, Ranongga
- K Zosterops meeki White-throated White-eye Papua New Guinea: Tagula Island
- E Zosterops modestus Seychelles Grey White-eye Seychelles: Mahé
- R Zosterops mouroniensis
  Comoro White-eye
  Comoros; Grand Comoro
- K Zosterops sanctaecrucis
   Santa Cruz White-eye, Nendo White-eye
   Solomon Islands: Nendo
- I Zosterops uropygialis Golden-bellied White-eye Indonesia: Kai Islands

## Family MELIPHAGIDAE

- V Apalopteron familiare
  Bonin Honeyeater
  Japan: Haha-jima and possibly offshore islands
- I Lichmera notabilis
  Black-chested Honeyeater
  Indonesia: Wetar
- R Melidectes princeps
  Long-bearded Melidectes
  Papua New Guinea
- I Meliphaga vicina
  Tagula Honeyeater
  Papua New Guinea: Tagula Island
- E Moho bishopi Bishop's Oo USA: Hawaiian Islands (Maui)
- E Moho braccatus Kauai Oo USA: Hawaiian Islands (Kauai)
- I Myzomela kuehni Crimson-hooded Myzomela Indonesia: Wetar (ex?)
- V Notiomystis cincta Stitchbird New Zealand: Little Barrier Island
- I Philemon brassi
  Brass's Friarbird
  Indonesia: Irian Jaya

- R Philemon fuscicapillus

  Dusky Friarbird

  Indonesia: Bacan, Halmahera, Morotai
- K Xanthomyza phrygia Regent Honeyeater Australia

## Family EMBERIZIDAE

- I Atlapetes flaviceps
  Olive-headed Brush-Finch
  Colombia
- E/Ex Atlapetes pallidiceps
  Pale-headed Brush-Finch
  Ecuador
- V Bangsia aureocincta
  (Buthraupis aureocincta)
  Gold-ringed Tanager
  Colombia
- V/R Bangsia melanochlamys (Buthraupis melanochlamys) Black-and-gold Tanager Colombia
- K Buthraupis aureodorsalis
   (Bangsia aureodorsalis)
   Golden-backed Mountain-Tanager
   Peru
- V/R Buthraupis wetmorei

  Masked Mountain-Tanager
  Colombia; Ecuador; Peru
- V/R Calyptophilus frugivorus
  Chat Tanager
  Dominican Republic; Haiti
- I Camarhynchus heliobates

  Mangrove Finch
  Ecuador: Galapagos Islands: Fernandina,
  Isabela
- V/R Chlorochrysa nitidissima Multicolored Tanager Colombia
- K Chlorospingus flavovirens Yellow-green Bush-Tanager Colombia; Ecuador
- E/Ex Conothraupis mesoleuca Cone-billed Tanager Brazil
- I Dacnis berlepschi
  Scarlet-breasted Dacnis
  Colombia; Ecuador

V/R Dacnis nigripes
Black-legged Dacnis
Brazil

I Diglossa venezuelensis Venezuelan Flowerpiercer Venezuela

R Emberiza sulphurata
Yellow Bunting
Japan. \* China; Hong Kong; Korea D.P.R.;
Korea Republic; Philippines; Taiwan

V Gubernatrix cristata
Yellow Cardinal
Argentina; Brazil; Paraguay (ex?); Uruguay

V/R Hemispingus goeringi Slaty-backed Hemispingus Venezuela

V Incaspiza ortizi
Grey-winged Inca-Finch
Peru

E Junco insularis
(J. hyemalis insularis)
Guadalupe Junco
Mexico: Guadalupe Island

E/Ex Nemosia rourei
Cherry-throated Tanager
Brazil

R Nesospiza acunhae
 Nightingale Finch
 Saint Helena: Inaccessible Island, Nightingale
 Island, Middle Island, Stoltenhoff Island,
 Tristan da Cunha

R Nesospiza wilkinsi
 Wilkins's Finch
 Saint Helena: Tristan da Cunha, Inaccessible
 Island, Nightingale Island

V/R Oreothraupis arremonops
Tanager Finch
Colombia; Ecuador

V/R Poospiza alticola
Plain-tailed Warbling-Finch
Peru

V/R *Poospiza baeri*Tucuman Mountain-Finch
Argentina

I Poospiza cinerea Cinereous Warbling-Finch Brazil E Poospiza garleppi Cochabamba Mountain-Finch Bolivia

E Poospiza rubecula Rufous-breasted Warbling-Finch Peru

V/R Pseudodacnis hartlaubi (Dacnis hartlaubi) Turquoise Dacnis-Tanager Colombia

R Rowettia goughensis
Gough Finch
Saint Helena: Gough Island

V/R Saltator rufiventris
Rufous-bellied Saltator
Argentina; Bolivia

V/R Sporophila falcirostris Temminck's Seedeater Argentina; Brazil; Paraguay

V/R Sporophila frontalis
Buffy-fronted Seedeater
Argentina?; Brazil; Paraguay

K Sporophila hypochroma
 Grey-and-chestnut Seedeater
 Argentina; Bolivia; Brazil; Paraguay

E/Ex Sporophila insulata
Tumaco Seedeater
Colombia: Tumaco Island

E/Ex Sporophila melanops Hooded Seedeater Brazil

I Sporophila nigrorufa
Black-and-tawny Seedeater
Bolivia; Brazil

K Sporophila palustris
 Marsh Seedeater
 Argentina; Brazil; Paraguay; Uruguay

E Sporophila zelichi Narosky's Seedeater Argentina

V/R Tangara cabanisi
Azure-rumped Tanager
Guatemala; Mexico

V/R Tangara fastuosa Seven-colored Tanager Brazil

K Tangara meyerdeschauenseei Green-capped Tanager Peru V/R Tangara peruviana

Black-backed Tanager

Brazil

K Tangara phillipsi Sira Tanager Peru

V/R Torreornis inexpectata
Zapata Sparrow
Cuba

V Wetmorethraupis sterrhopteron Orange-throated Tanager Ecuador: Peru

V Xenospingus concolor Slender-billed Finch Chile; Peru

V/R Xenospiza baileyi (Ammodramus baileyi) Sierra Madre Sparrow Mexico

## Family PARULIDAE

I Basileuterus griseiceps Grey-headed Warbler Venezuela

I Conirostrum tamaragense Tamarugo Conebill Chile: Peru

V/R Dendroica chrysoparia Golden-cheeked Warbler

USA. \* Guatemala; Honduras; Mexico; Nicaragua

E Dendroica kirtlandii
 Kirtland's Warbler
 Canada?; USA. \* Bahamas; Turks and Caicos
 Islands

W Geothlypis speciosa
Black-polled Yellowthroat
Mexico

E/Ex Leucopeza semperi Semper's Warbler Saint Lucia

E Myioborus pariae Yellow-faced Redstart Venezuela

E/Ex Vermivora bachmanii Bachman's Warbler USA. \* Cuba?

V/R Xenoligea montana
White-winged Warbler
Dominican Republic; Haiti

## Family DREPANIDIDAE

E Hemignathus lucidus
Nukupuu
USA: Hawaiian Islands (Hawaii, Kauai (ex?),
Maui)

E. Hemignathus wilsoni (H. munroi)

Akiapolaau

USA: Hawaiian Islands (Hawaii)

E Hemignathus obscurus
Akialoa
USA: Hawaiian Islands (Kauai)

E Loxioides bailleui
Palila
USA: Hawaiian Islands (Hawaii)

R Loxops coccineus
Akepa
USA: Hawaiian Islands (Hawaii, Kauai, Maui,
Molokai)

R Melamprosops phaeosoma Poo-uli USA: Hawaiian Islands (Maui)

R Oreomystis bairdi Kauai Creeper USA: Hawaiian Islands (Kauai)

V Palmeria dolei Akohekohe USA: Hawaiian Islands (Maui)

E Paroreomyza maculata
Oahu Creeper
USA: Hawaiian Islands (Oahu)

V Pseudonestor xanthophrys Maui Parrotbill USA: Hawaiian Islands (Maui)

E Psittirostra psittacea
Ou
USA: Hawaiian Islands (Hawaii, Kauai)

R Telespiza cantans
Laysan Finch
USA: Hawaiian Islands (Laysan)
[USA: Hawaiian Islands (Hermes Reef, Pearl)]

R Telespiza ultima
Nihoa Finch
USA: Hawaiian Islands (Nihoa)
[USA: Hawaiian Islands (French Frigate Shoals)]

## Family VIREONIDAE

- E Vireo atricapillus
  Black-capped Vireo
  Mexico; USA
- I Vireo caribaeus Saint Andrew Vireo Colombia; San Andrés Island

## Family ICTERIDAE

- V Agelaius flavus (Xanthopsar flavus) Saffron-cowled Blackbird Argentina; Brazil; Paraguay; Uruguay
- E Agelaius xanthomus Yellow-shouldered Blackbird Puerto Rico
- K Cacicus koepckeae Selva Cacique Peru
- E Curaeus forbesi Forbes's Blackbird Brazil
- I Gymnostinops cassini
  (Psarocolius cassini)
  Chestnut-mantled Oropendola
  Colombia
- I Hypopyrrhus pyrohypogaster Red-bellied Grackle Colombia
- E Icterus bonana Martinique Oriole Martinique
- I Sturnella militaris
  (S. defilippii)
  Pampas Meadowlark
  Argentina; Brazil?; Uruguay. \* Brazil?;
  Uruguay

## Family FRINGILLIDAE

- E Carduelis cucullata
  Red Siskin
  Colombia; Venezuela
  [Puerto Rico]
- R Carduelis johannis (Acanthis johannis) Warsangli Linnet Somalia
- V Carduelis siemiradzkii Saffron Siskin Ecuador, Peru?

- V/R Carduelis yarrellii Yellow-faced Siskin Brazil; Venezuela
- R Fringilla teydea
  Teydefinch
  Spain: Canary Islands (Tenerife, Gran Canaria)
- I Neospiza concolor
  São Tomé Canary
  São Tomé and Príncipe: São Tomé (ex?)
- R Serinus ankoberensis Ankober Serin Ethiopia
- I Serinus flavigula
  Yellow-throated Seedeater
  Ethiopia

## Family ESTRILDIDAE

- R Amandava formosa (Estrilda formosa) Green Avadavat India
- K Chloebia gouldiae Gouldian Finch Australia
- R Erythrura coloria
  Red-eared Parrotfinch
  Philippines: Mindanao
- R Erythrura kleinschmidti Pink-billed Parrotfinch Fiji: Viti Levu
- R Erythrura viridifacies Green-faced Parrotfinch Philippines: Luzon
- K Estrilda nigriloris
  Black-faced Waxbill
  Zaire
- K Estrilda poliopareia Fawn-breasted Waxbill Nigeria

## Family PLOCEIDAE

- E Foudia flavicans
  Yellow Fody
  Mauritius: Rodrigues
- E Foudia rubra
  Mauritius Fody
  Mauritius
- R Foudia sechellarum
  Seychelles Fody
  Seychelles: Cousin, Cousine, Fregate

- I Malimbus ballmanni
  Ballmann's Malimbe
  Côte d'Ivoire?; Liberia; Sierra Leone
- R Malimbus flavipes (Ploceus flavipes) Yellow-legged Malimbe Zaire
- E Malimbus ibadanensis
  Ibadan Malimbe
  Nigeria
- R Ploceus aureonucha Golden-naped Weaver Zaire
- V Ploceus bannermani
  Bannerman's Weaver
  Cameroon; Nigeria?
- R Ploceus batesi Bates's Weaver Cameroon
- E Ploceus golandi Clarke's Weaver Kenya
- R Ploceus megarhynchus Yellow Weaver India
- R Ploceus nicolli Usambara Weaver Tanzania
- K Ploceus nigrimentum
  Black-chinned Weaver
  Angola; Congo?
- K Ploceus ruweti
  Ruwet's Masked-Weaver
  Zaire
- K Ploceus subpersonatus Loango Weaver Angola; Gabon; Zaire
- K Ploceus victoriae Victoria Masked-Weaver Uganda

## Family STURNIDAE

- E Aplonis cinerascens
  Rarotonga Starling
  Cook Islands: Rarotonga
- R Aplonis santovestris
  Mountain Starling
  Vanuatu: Espirito Santo

- R Basilornis galeatus Helmeted Myna Indonesia: Banggai Islands, Sula Islands
- K Cinnyricinclus femoralis
   Abbott's Starling
   Kenya; Tanzania
- E Leucopsar rothschildi Bali Myna Indonesia: Bali
- R Streptocitta albertinae
  Bare-eyed Myna
  Indonesia: Sula Islands

#### Family ORIOLIDAE

- R Oriolus isabellae Isabela Oriole Philippines: Mindanao, Luzon
- I Oriolus mellianus Silver Oriole China, \* Thailand

## Family DICRURIDAE

- R Dicrurus fuscipennis
  Comoro Drongo
  Comoros: Grand Comoro
- R Dicrurus waldenii Mayotte Drongo Mayotte

#### Family CALLAEIDAE

- E Callaeas cinerea Kokako New Zealand
- R Philesturnus carunculatus (Creadion carunculatus) Saddleback New Zealand

## Family PTILONORHYNCHIDAE

- K Amblyornis flavifrons
  Golden-fronted Bowerbird
  Indonesia: Irian Jaya
- R Sericulus bakeri
  Fire-maned Bowerbird
  Papua New Guinea

#### Family PARADISAEIDAE

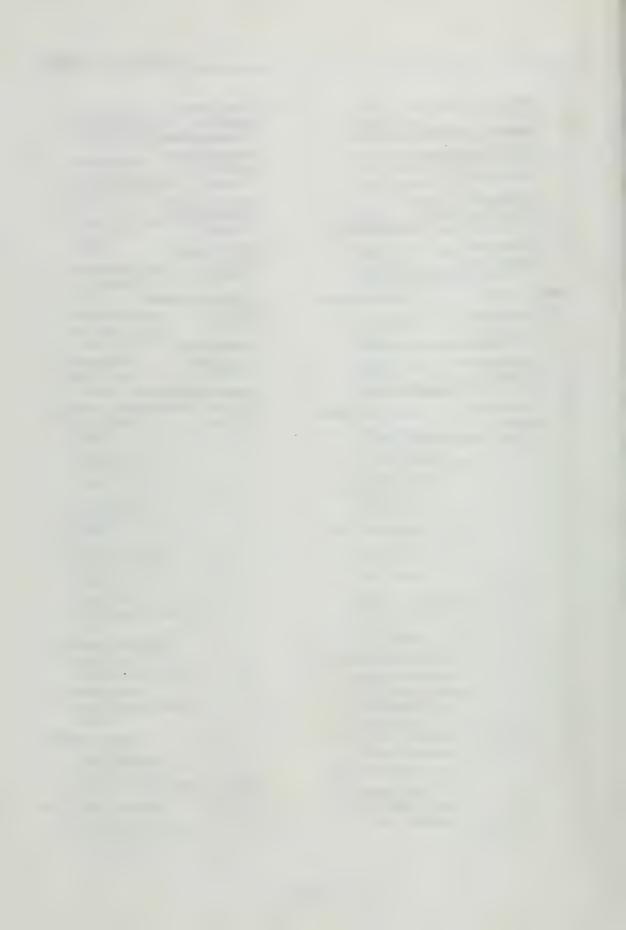
V Astrapia mayeri
Ribbon-tailed Astrapia
Papua New Guinea

- R Epimachus fastuosus
  Black Sicklebill
  Indonesia: Irian Jaya; Papua New Guinea
- R Paradigalla carunculata
  Long-tailed Paradigalla
  Indonesia: Irian Jaya
- R Paradisaea decora
  Goldie's Bird-of-paradise
  Papua New Guinea; Fergusson, Normanby
- R Parotia wahnesi Wahnes's Parotia Papua New Guinea

## Family CORVIDAE

- R Corvus florensis
  Flores Crow
  Indonesia: Flores
- E Corvus hawaiiensis
  Hawaiian Crow
  USA: Hawaiian Islands (Hawaii)
- E Corvus kubaryi Mariana Crow Guam; Northern Marianas: Rota

- R Corvus unicolor Banggai Crow Indonesia: Banggai
- V Crypsirina cucullata Hooded Treepie Myanmar
- V Cyanolyca mirabilis White-throated Jay Mexico
- E Cyanolyca nana Dwarf Jay Mexico
- V Perisoreus internigrans Sichuan Jay China
- V Urocissa ornata Ceylon Magpie Sri Lanka
- R Zavattariornis stresemanni Stresemann's Bush-Crow Ethiopia



#### Class REPTILIA

#### Order TESTUDINES

## Family KINOSTERNIDAE

Kinosternon angustipons Narrow-bridged Mud Turtle Costa Rica; Nicaragua; Panama

Kinosternon creaseri Creaser's Mud Turtle Mexico: Yucatan Peninsula

Kinosternon depressum (Sternotherus depressus, Sternotherus minor depressus) Flattened Musk Turtle USA: Black Warrior River system

R Kinosternon dunni Dunn's Mud Turtle Colombia

I Kinosternon oaxacae Oaxaca Mud Turtle Mexico

## Family DERMATEMYDIDAE

Dermatemys mawii Central American River Turtle Belize; Guatemala; Honduras; Mexico

## Family CHELYDRIDAE

Macroclemys temminckii Alligator Snapping Turtle USA

#### Family EMYDIDAE

Annamemys annamensis Annam Leaf Turtle Viet Nam

E Batagur baska

E

Batagur

Bangladesh: Cambodia?: India: Indonesia: Sumatra; Malaysia; Myanmar, Singapore?; Thailand; Viet Nam?

Callagur borneoensis Painted Terrapin Brunei?: Indonesia: Kalimantan, Sumatra; Malaysia: Peninsular Malaysia, Sarawak; Thailand

R Clemmys muhlenbergii Bog Turtle **USA** 

K Cuora galbinifrons (Cistoclemmys galbinifrons, includes Cuora hainanensis)

> Indochinese Box Turtle China: Hainan Island: Viet Nam

K Cuora yunnanensis (Cyclemys yunnanensis) Yunnan Box Turtle China: Yunnan

I Geoclemys hamiltonii (Damonia hamiltonii) Black Pond Turtle Bangladesh; India; Nepal?; Pakistan

 $\mathbf{v}$ Geoemyda silvatica (Heosemys silvatica) Cochin Forest Cane Turtle India

K Graptemys barbouri Barbour's Map Turtle USA: Apalachicola-Chipola River system

K Graptemys caglei Cagle's Map Turtle USA: Guadelupe-San Antonio River system

Ι Graptemys flavimaculata Yellow-blotched Map Turtle USA: Pascagoula River system

K Graptemys oculifera Ringed Map Turtle USA: Pearl River system

K Heosemys depressa Arakan Forest Turtle Myanmar: Arakan hills

Heosemys leytensis Leyte Pond Turtle Philippines: Levte, Palawan

K Heosemys spinosa (Geoemyda spinosa) Spiny Turtle Brunei; Indonesia; Malaysia: Peninsular Malaysia. Sabah, Sarawak; Myanmar?; Thailand

T Kachuga kachuga Red-crowned Roofed Turtle Bangladesh; India; Nepal

I Kachuga sylhetensis Assam Roofed Turtle Bangladesh; India: Assam K Kachuga trivittata
Burmese Roofed Turtle
Myanmar

I Melanochelys tricarinata (Geoemyda or Nicoria tricarinata) Three-keeled Land Tortoise

Bangladesh; India; Nepal?

K Morenia ocellata
Burmese Eyed Turtle
Myanmar

K Orlitia borneensisMalaysian Giant Turtle

Indonesia: Kalimantan, Sumatra; Malaysia: Peninsular Malaysia, Sarawak

R Pseudemys alabamensis
Alabama Red-bellied Turtle
USA: Mobile Bay area

K Rhinoclemmys rubida
Mexican Spotted Wood Turtle
Mexico

V Terrapene coahuila
Aquatic Box Turtle
Mexico: Cuatro Cienegas basin

K Terrapene nelsoni Spotted Box Turtle Mexico

K Trachemys decorata (Trachemys stejnegeri decorata) Hispaniolan Slider

Dominican Republic; Haiti

Family TESTUDINIDAE

V Geochelone chilensis

(Chelonoides chilensis, includes Geochelone donosobarrosi, Geochelone petersi)

Argentine Tortoise Argentina; Paraguay

V Geochelone elephantopus (G. nigra)

> Galapagos Giant Tortoise Ecuador: Galapagos Islands

R Geochelone gigantea
(Aldabrachelys elepha

(Aldabrachelys elephantina, Dipsochelys elephantina)

Aldabra Giant Tortoise Seychelles: Aldabra [several introduced populations in region]

K Geochelone platynota
Burmese Starred Tortoise
Myanmar

V Geochelone radiata
Radiated Tortoise
Madagascar
[Mauritius; Réunion]

E Geochelone yniphora

Madagascar Tortoise

Madagascar: near Baly Bay

V Gopherus agassizii

(Gopherus polyphemus agassizii, Scaptochelys or Xerobates agassizii)

Desert Tortoise Mexico; USA

I Gopherus berlandieri

(Gopherus polyphemus berlandieri, Scaptochelys or Xerobates berlandieri)

Texas Tortoise Mexico; USA

E Gopherus flavomarginatus
Bolson Tortoise
Mexico

V Gopherus polyphemus Gopher Tortoise USA

K Homopus bergeri
 Berger's Cape Tortoise
 Namibia

Viet Nam

K Indotestudo elongata
 (Geochelone elongata)
 Elongated Tortoise
 Bangladesh; Cambodia; China: Guangxi; India;
 Laos; Malaysia; Myanmar; Nepal; Thailand;

R Indotestudo forstenii
(includes Geochelone travancorica and
Geochelone forstenii)
Travancore Tortoise

India; Indonesia: Halmahera, Sulawesi

K Malacochersus tornieri
Pancake Tortoise

Kenya; Tanzania

V Manouria emys (Geochelone emys, includes Testudo nutapundi) Asian Giant Tortoise

Bangladesh; Cambodia?; China?; India; Indonesia: Kalimantan, Sumatra; Laos?; Malaysia: Peninsular Malaysia, Sabah?, Sarawak; Myanmar; Thailand; Viet Nam?

## K Manouria impressa

(Geochelone impressa)

Impressed Tortoise

Cambodia?; China?: Hainan; Laos?; Malaysia: Peninsular Malaysia; Myanmar, Thailand; Viet Nam

#### V Psammobates geometricus

(Testudo geometrica)
Geometric Tortoise
South Africa

# I Pyxis arachnoides Spider Tortoise

Madagascar

#### I Pyxis planicauda

(Acinixys planicauda, Testudo planicauda)

Madagascar Flat-shelled Tortoise

Madagascar: Andranomena forest

## V Testudo hermanni

Albania; Bulgaria; France; Greece; Italy; Romania; Spain: Balearic Islands; Turkey; Yugoslavia [Malta; Spain: mainland]

## V Testudo kleinmanni

Egyptian Tortoise Egypt; Israel; Libya

Testudo marginata

Marginated Tortoise Albania; Greece [Italy]

#### Family CHELONIIDAE

## V Caretta caretta

R

Loggerhead

(Nesting recorded on beaches of tropical, subtropical and temperate seas [Atlantic, Caribbean, Indian, Mediterranean, Pacific]. Wandering individuals recorded in temperate and arctic waters.)

Angola?; Australia; Bahamas; Bangladesh; Belize; Brazil; British Virgin Islands; Cape Verde?; Cayman Islands; Colombia; Costa Rica; Cuba; Cyprus; Dominican Republic; Greece: Grenada: Guadeloupe: Egypt; Guatemala: Haiti: Honduras: India?: Indonesia: Israel: Italy: Jamaica: Japan: Libya; Madagascar, Mexico; Montserrat; Morocco; Mozambique; Myanmar?; Namibia; New Caledonia; Nicaragua; Oman; Panama; Papua New Guinea?; Paracel Islands; Philippines; Puerto Rico; Senegal; South Africa; Sri Lanka; Saint Lucia; Turkey; Turks and Caicos Islands; USA; Venezuela

## E Chelonia mydas

(includes C. agassizii)

Green Turtle

(Nesting recorded on beaches of tropical and subtropical seas [Atlantic, Caribbean, Indian, Mediterranean, Pacific]; wandering individuals recorded in temperate waters. Most numerous in Australia and Indonesia, large nesting populations also in Costa Rica and at several sites around the Indian Ocean.)

American Samoa; Angola; Anguilla; Antigua and Barbuda: Ascension: Australia: Bahamas?: Bangladesh; Belize; Benin?; Brazil; British Indian Ocean Territory; British Virgin Islands; Cambodia?; Cameroon?; Cape Verde?; Chile?; China: Colombia: Comoros: Congo?: Cook Islands; Costa Rica; Côte d'Ivoire?; Cuba Cyprus: Diibouti?: Dominica: Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea: Bioko; Ethiopia; Federated States of Micronesia; Fiji; French Guiana; French Polynesia: Gabon?: Ecuador: Galapagos Islands; Ghana?; Grenada; Guadeloupe?; Guam: Guatemala: Guinea?: Guinea-Bissau?: Guyana; Haiti: Honduras?; India; Indonesia; Iran; Israel (ex?); Jamaica; Japan; Kenya; Kiribati; Kuwait; Liberia?; Line Islands: north; Madagascar: Malaysia: Peninsular Malaysia. Sabah, Sarawak; Maldives; Marshall Islands; Martinique; Mauritania; Mauritius: Saint Brandon; Mayotte; Mexico; Montserrat?; Mozambique; Myanmar; Netherlands Antilles; New Caledonia; Nicaragua; Nigeria?; Niue; Northern Marianas; Oman; Pakistan; Palau; Panama; Papua New Guinea; Peru; Philippines; Puerto Rico; Qatar?; Réunion: Europa, Glorieuses, Juan de Nova, Tromelin; São Tomé and Príncipe; Saudi Arabia; Senegal; Seychelles; Sierra Leone; Solomon Islands; Somalia; Sri Lanka; Saint Kitts-Nevis; Saint Lucia; Saint Vincent; Sudan?; Suriname; Taiwan?; Tanzania; Thailand; Togo?; Tokelau; Tonga; Trinidad and Tobago; Turkey; Turks and Caicos Islands; Tuvalu; United Arab Emirates; USA: including Hawaiian Islands; Virgin Islands of the United States; Vanuatu; Venezuela; Viet Nam; Western Sahara?; Western Samoa?; Yemen; Zaire?

## E Eretmochelys imbricata

Hawksbill Turtle

(Nesting recorded on beaches of tropical and subtropical seas [Atlantic, Caribbean, Indian, Pacific]. Wandering individuals occasionally recorded in temperate waters.)

American Samoa; Anguilla; Antigua and Barbuda: Aruba; Australia; Bahamas; Bangladesh; Barbados; Belize; Brazil; British Indian Ocean Territory; British Virgin Islands; Cambodia; Cameroon?; Cape Verde?; China?; Colombia; Comoros; Cook Islands; Costa Rica: Côte d'Ivoire?; Cuba; Djibouti?; Dominica; Dominican Republic; Ecuador; Egypt; El Salvador?; Equatorial Guinea: Bioko: Ethiopia: Federated States of Micronesia; Fiji; French Guiana; French Polynesia?; Gabon?; Ghana?; Grenada; Guadeloupe; Guam; Guatemala; Guinea?; Guinea-Bissau?; Guyana; Haiti; Honduras; India; Indonesia; Iran; Jamaica; Japan; Kenya; Kiribati?; Kuwait?; Madagascar, Malaysia; Peninsular Malaysia, Sabah, Sarawak; Maldives; Marshall Islands; Martinique; Mauritania?; Mayotte; Mexico; Montserrat; Mozambique; Myanmar; Netherlands Antilles; Caledonia?; Nicaragua; Nigeria?; Northern Marianas?; Oman; Palau; Panama; Papua New Guinea; Philippines; Puerto Rico; Qatar; Réunion: Iles Glorieuses; São Tomé and Príncipe?; Saudi Arabia; Senegal?; Seychelles; Sierra Leone; Solomon Islands; Somalia; Sri Lanka; Saint Kitts-Nevis; Saint Lucia: Saint Vincent; Sudan; Suriname; Taiwan?; Tanzania; Thailand; Tokelau; Tonga?; Trinidad and Tobago; Turks and Caicos Islands; Tuvalu?; United Arab Emirates?; USA: including Hawaiian Islands; US Pacific Islands?; Virgin Islands of the United States; Vanuatu; Venezuela; Viet Nam?; Western Sahara?; Western Samoa: Yemen

# E Lepidochelys kempii Kemp's Ridley

(Virtually all nesting occurs at Rancho Nuevo on the Gulf coast of Mexico [Tamaulipas State]. Single or sparse nesting elsewhere in Mexico, Colombia and USA. At sea, most frequently recorded in the Gulf of Mexico, also regular in Atlantic waters, particularly along the coast of North America, and very occasionally in the Mediterranean.)

[USA: attempts are being made to establish a nesting colony at Padre Island].

Mexico: USA

# E Lepidochelys olivacea

Olive Ridley

(Nesting recorded on beaches of tropical and subtropical seas [Atlantic, Indian, Pacific]. Major mass nesting occurs in India, Costa Rica and Mexico.)

Angola; Australia; Bangladesh; Brazil; Costa Rica; El Salvador; French Guiana; Guatemala; Guyana; Honduras; India; Indonesia; Kenya; Madagascar; Malaysia: Peninsular Malaysia, Sarawak; Mexico; Mozambique; Myanmar; Nicaragua; Oman; Pakistan; Panama; Papua New Guinea; Peru; Senegal; South Africa; Sri Lanka; Suriname; Tanzania; Thailand; Trinidad and Tobago; Venezuela

# V Natator depressus

Flatback

(Nests in Australia; recorded at sea in Indonesia and Papua New Guinea) Australia; Indonesia; Papua New Guinea

## Family DERMOCHELYIDAE

## E Dermochelys coriacea

Leatherback

(Nesting recorded on beaches of tropical and subtropical seas [Atlantic, Indian, Pacific]. Notable nesting in Mexico, Irian Jaya, Malaysia and French Guiana. Foraging populations regularly occur in cool temperate waters.)

Angola; Anguilla; Antigua and Barbuda; Australia; Brazil; British Virgin Islands; Colombia?; Costa Rica; Côte d'Ivoire; Cuba; Dominica; Dominican Republic; Ecuador; El Salvador, Fiji; French Guiana; Ghana; Grenada; Guadeloupe; Guatemala; Guyana; Honduras; India; Indonesia; Israel (ex?); Liberia; Malaysia: Peninsular Malaysia; Martinique; Mexico; Montserrat; Mozambique; Myanmar, Netherlands Antilles; Nicaragua; Panama; Papua New Guinea; Peru?; Puerto Rico; Senegal; Solomon Islands; South Africa; Sri Lanka; Saint Kitts-Nevis; Saint Lucia: Saint Vincent; Suriname; Thailand; Togo; Trinidad and Tobago; USA; Virgin Islands of the United States; Venezuela?: Zaire

# Family CARETTOCHELYIDAE

## K Carettochelys insculpta

Pig-nosed Turtle

Australia; Indonesia: Irian Jaya; Papua New Guinea

## Family TRIONYCHIDAE

R Aspideretes nigricans
(Trionyx nigricans)
Black Soft-shell Turtle

Bangladesh: Nasirabad near Chittagong

# Family PELOMEDUSIDAE

I Erymnochelys madagascariensis
(Podocnemis madagascariensis, Dumerilia
madagascariensis)
Madagascar Sideneck Turtle
Madagascar

K Pelusios seychellensis
 Seychelles Mud Turtle
 Seychelles

 K Podocnemis erythrocephala (Podocnemis cayennensis)
 Red-headed Sideneck
 Brazil; Colombia; Venezuela

E Podocnemis expansa
 South American River Turtle
 Bolivia; Brazil; Colombia; Ecuador; Guyana;
 Peru; Trinidad and Tobago; Venezuela

I Podocnemis lewyana
Magdalena River Turtle
Colombia: Rio Magdalena basin

K Podocnemis sextuberculata
Six-tubercled Amazon River Turtle
Brazil; Colombia; Peru

V Podocnemis unifilis
Yellow-headed Sideneck
Bolivia; Brazil; Colombia; Ecuador, French
Guiana; Guyana; Peru; Suriname; Venezuela

#### Family CHELIDAE

K Acanthochelys macrocephala
 (Platemys macrocephala)
 Big-headed Pantanal Swamp Turtle
 Argentina; Bolivia; Brazil; Paraguay

R Acanthochelys pallidipectoris
(Platemys pallidipectoris)
Chaco Sideneck Turtle
Argentina; Bolivia?; Paraguay

K Acanthochelys spixii
(Platemys spixii)
Spix's Sideneck Turtle
Argentina; Brazil; Paraguay?; Uruguay

V Elseya sp. Namoi River Elseya Australia V Emydura signata
Bellinger River Emydura
Australia

I Phrynops dahli
Dahl's Toad-headed Turtle
Colombia: Sincelejo

I Phrynops hogei
Hoge's Sideneck Turtle
Brazil

K Phrynops rufipes Red-footed Sideneck Turtle Brazil; Colombia; Peru?

K Phrynops zuliae (Batrachemys zuliae) Zulia Toad-headed Turtle Venezuela

E Pseudemydura umbrina Western Swamp Turtle Australia: near Perth

V Rheodytes leukops Fitzroy Turtle Australia

# Order CROCODYLIA

## Family ALLIGATORIDAE

E Alligator sinensis
Chinese Alligator
China: Yangtze River system

Welanosuchus niger
 Black Caiman
 Bolivia; Brazil; Colombia; Ecuador; French
 Guiana; Guyana; Paraguay; Peru; Venezuela

## Family CROCODYLIDAE

Crocodylus acutus

American Crocodile
Belize?; Colombia; Costa Rica; Cuba;
Dominican Republic; Ecuador; El Salvador;
Guatemala; Haiti; Honduras; Jamaica; Mexico;
Nicaragua; Panama; Peru; USA: Florida;
Venezuela

V Crocodylus cataphractus
African Slender-snouted Crocodile
Angola: Cabinda: Benin: Bu

Angola: Cabinda; Benin; Burkina Faso; Cameroon; Central African Republic; Chad; Congo; Côte d'Ivoire; Equatorial Guinea; Gabon; Gambia (ex?); Ghana; Guinea; Guinea-Bissau (ex?); Liberia; Mali; Mauritania; Nigeria; Senegal (ex?); Sierra Leone; Tanzania; Togo; Zaire; Zambia

- E Crocodylus intermedius Orinoco Crocodile Colombia; Venezuela
- E Crocodylus mindorensis

  Mindoro or Philippines Crocodile

  Philippines
- V Crocodylus palustris
   Mugger
   Bangladesh (ex?); India; Iran; Nepal; Pakistan;
   Sri Lanka
- V Crocodylus porosus
  Estuarine Crocodile
  Australia; Bangladesh; Brunei; Cambodia;
  India; Indonesia; Malaysia: Peninsular
  Malaysia, Sabah, Sarawak; Myanmar:
  Irrawaddy Delta; Palau; Papua New Guinea;
  Philippines; Solomon Islands; Sri Lanka;
  Thailand (ex?); Vanuatu; Viet Nam
- E Crocodylus rhombifer
  Cuban Crocodile
  Cuba
- E Crocodylus siamensis
  Siamese Crocodile
  Brunei?; Cambodia; Indonesia: Kalimantan,
  Sulawesi, Sumatra; Laos?; Malaysia:
  Peninsular Malaysia, Sabah?, Sarawak?;
  Myanmar?; Thailand (ex?); Viet Nam
- E Tomistoma schlegelii
  False Gharial
  Indonesia: Kalimantan, Sumatra; Malaysia:
  Peninsular Malaysia, Sarawak; Myanmar?;
  Thailand (ex?)

#### Family GAVIALIDAE

E Gavialis gangeticus
 Gharial
 Bangladesh; Bhutan?; India; Nepal; Pakistan

#### Order RHYNCHOCEPHALIA

#### Family SPHENODONTIDAE

- E Sphenodon guntheri
  Brother's Island Tuatara
  New Zealand: North Brother Island
- R Sphenodon punctatus
  Cook Strait Tuatara
  New Zealand: offshore islands

#### Order SAURIA

# Family GEKKONIDAE

R Afroedura hawequensis Hawequa Flat Gecko South Africa

- V Christinus guentheri Australia: Lord Howe Island, Norfolk Island
- R Goniosaurus kuroiwae (Eublepharis kuroiwae) Kuroiwa's Ground Gecko Japan: Nansei-shoto
- K Heteropholis rudis Rough Gecko New Zealand
- K Homonota peñai (Garthia peñai) Chile
- R Homopholis mulleri Muller's Velvet Gecko South Africa
- K Hoplodactylus chrysosireticus Gold-striped Gecko New Zealand
- K Hoplodactylus duvauceli
  Duvaucel's Gecko
  New Zealand
- I Hoplodactylus kabutarae Black-eyed Gecko New Zealand
- I Hoplodactylus rakiurae Harlequin Gecko New Zealand
- V Hoplodactylus stephensi Stephen's Island Gecko New Zealand
- V Lepidodactylus listeri Christmas Island
- V Lygodactylus methueni Methuen's Dwarf Gecko South Africa
- R Nactus coindemerensis

  Mauritius: Gunner's Quoin
- R Nactus serpensinsula (Cyrtodactylus serpensinsula) Serpent Island Gecko Mauritius: Round Island, Serpent Island
- V Nephrurus deteani Australia
- E Phelsuma guentheri
  Round Island Day Gecko
  Mauritius: Round Island

- R Phelsuma ocellata Namaqua Day Gecko Namibia; South Africa
- I Phelsuma standingi Standing's Day Gecko Madagascar
- V Phyllodactylus europaeus European Leaf-toed Gekko France; Italy; Tunisia
- K Phyllodactylus heterurus Chile
- K Phyllodactylus melanostictus
   Scarce Ground Gecko
   Thailand
- R Phyllodactylus microlepidotus Small-scaled Leaf-toed Gecko South Africa
- I Phyllodactylus peringueyi
  Peringueyi's Leaf-toed Gecko
  South Africa?
- E Sphaerodactylus micropithecus Monito Gecko Puerto Rico: Monito Island
- V Underwoodisaurus sphyurus Australia

## Family PYGOPODIDAE

- E Aprasia aurita Australia
- V Aprasia pseudopulchella Flinders Ranges Worm-lizard Australia
- V Delma impar Striped Legless Lizard Australia
- V Delma labialis Striped Tailed Delma Australia
- V Delma torquata Collared Delma Australia
- V Ophidiocephalus taeniatus Bronzeback Snake-lizard Australia
- V Paradelma orientalis
  Brigalow Scaly-foot
  Australia

#### Family XANTUSIIDAE

R Xantusia riversiana (Klauberina riversiana) Island Night Lizard USA

#### Family AGAMIDAE

- V Ceratophora tennentii
  Tennent's Leaf-nosed Lizard
  Sri Lanka
- V Ctenophorus yinnietharra Yinnietharra Rock Dragon Australia
- K Gonocephalus abbotti
  Abbott's Crested Lizard
  Thailand
- V Hydrosaurus pustulatus Sail-fin Lizard Philippines

## Family CHAMAELEONIDAE

- R Bradypodion nemorale
  Zululand Dwarf Chamaeleon
  South Africa
- R Bradypodion setaroi Setaro's Dwarf Chamaeleon South Africa
- E Bradypodion taeniabronchum Smith's Dwarf Chamaeleon South Africa
- R Bradypodion thamnobates
  Natal Midland Dwarf Chamaeleon
  South Africa

#### Family IGUANIDAE

- R Amblyrhynchus cristatus Galapagos Marine Iguana Ecuador: Galapagos Islands
- E Anolis roosevelti
  Culebra Island Giant Anole
  Puerto Rico: Isla Culebra (ex?)
- V Brachylophus fasciatus Fiji Banded Iguana Fiji; Tonga [Vanuatu]
- V Brachylophus vitiensis Fiji Crested Iguana Fiji
- R Conolophus pallidus
  Barrington Land Iguana
  Ecuador: Galapagos Islands

V Conolophus subcristatus Galapagos Land Iguana Ecuador: Galapagos Islands

R Cyclura carinata
Turks and Caicos Ground Iguana

Bahamas: Booby Cay; Turks and Caicos Islands

E Cyclura collei
(Cyclura lophoma)
Jamaica Ground Iguana
Jamaica

I Cyclura cornuta (includes Cyclura stejnegeri) Rhinoceros Iguana

Dominican Republic; Haiti; Puerto Rico: Isla Mona; USA: Navassa Island (ex?)

R Cyclura cyclura
(includes Cyclura baelopha, Cyclura figginsi,
Cyclura inornata)
Andros Ground or Rock Iguana
Bahamas

V Cyclura nubila
(includes Cyclura caymanensis, Cyclura
macleayi)
Cuban Ground Iguana
Cayman Islands: Cuba

Cuban Ground Iguana
Cayman Islands; Cuba
[Puerto Rico: Isla Magueyes]

E Cyclura pinguis
 Anegada Ground Iguana
 British Virgin Islands: Anegada Island

I Cyclura ricordi
Hispaniolan Ground Iguana
Dominican Republic; Haiti

I Cyclura rileyi Acklin's Ground Iguana Bahamas

E Gambelia silus
(Crotaphytus silus, Crotaphytus wislizenii silus)
Blunt-nosed or San Joaquin Leopard Lizard
USA

V Iguana delicatissima
 Lesser Antillean Iguana, West Indian Iguana
 Anguilla; Antigua and Barbuda; Dominica;
 Guadeloupe; Netherlands Antilles: Saint Eustatius, Saint Maarten; Saint Kitts-Nevis;
 Martinique

R Liolaemus constanzae
Chile

R Liolaemus curis Chile R Liolaemus donosi Chile

V Liolaemus fuscus Argentina; Chile

E Liolaemus gravenhorstii Chile

R Liolaemus hellmichi Chile

R Liolaemus huacahuasicus Argentina: Cumbres Calchaquies mountains

V Liolaemus kuhlmanni Chile

V Liolaemus lemniscatus Argentina; Chile

V Liolaemus leopardinus Chile

R Liolaemus lorenzmuelleri Chile

K Liolaemus lutzae Brazil

V Liolaemus nitidus Chile

R Liolaemus paulinae Chile

I Liolaemus rabinoi Argentina: Lago Nihuil

K Liolaemus walkeri Chile

V Liolaemus zapallarensis Chile

R Pristidactylus alvaroi Chile

R Pristidactylus valeriae Chile

K Tropidurus tarapacensis Chile

V Uma inornata
Coachella Valley Fringe-toed Lizard
USA

Family LACERTIDAE

K Archaeolacerta monticola Iberian Rock Lizard Portugal; Spain

E Gallotia simonyi
Hierro Giant Lizard
Spain: Canary Islands (Hierro)

- R Lacerta australis
  Southern Rock Lizard
  South Africa
- R Lacerta clarkorum Georgia; Turkey
- R Lacerta rupicola
  Soutpansberg Rock Lizard
  South Africa
- K Lacerta schreiberi Portugal; Spain
- V Podarcis lilfordi Lilford's Wall Lizard Spain: Mallorca, Menorca
- R Podarcis pityusensis
  Ibiza Wall Lizard
  Spain: Formentera, Ibiza
  [Spain: Mallorca]

## Family CORDYLIDAE

- V Cordylus cataphractus Armadillo Girdled Lizard South Africa
- V Cordylus giganteus Giant Girdled Lizard South Africa
- R Cordylus lawrencei
  Lawrence's Girdled Lizard
  South Africa
- R Cordylus mclachlani McLachlan's Girdled Lizard South Africa
- R Gerrhosaurus typicus Namaqua Plated Lizard South Africa
- R Platysaurus relictus
  Soutpansberg Flat Lizard
  South Africa
- R Pseudocordylus langi Lang's Crag Lizard Lesotho: South Africa
- R Pseudocordylus spinosus Spiny Crag Lizard South Africa
- R Tetradactylus breyeri
  Breyer's Long-tailed Seps
  South Africa

## Family TEIIDAE

- E Ameiva polops
  Saint Croix Ground Lizard
  Virgin Islands of the United States: Green
  Cay. Protestant Key. [Buck Island]
- V Callopistes maculatus Chile
- V Cnemidophorus hyperythrus Orange-throated Whiptail Mexico: USA
- V Cnemidophorus vanzoi Saint Lucia: Maria Islands

#### Family SCINCIDAE

- R Acanthiops lineatus
  Woodbush Legless Skink
  South Africa
- V Anomalopus mackayi Long-legged Worm-skink Australia
- R Barkudia insularis Legless Skink India
- V Coeranoscincus reticulatus Three-toed Snake-tooth Skink Australia
- E Ctenotus lancelini
  Lancelin Island Skink
  Australia: Lancelin Island
- V Ctenotus zastictus Hamelin Ctenotus Australia
- V Cyclodina alani Robust Skink New Zealand
- V Cyclodina macgregori MacGregor's Skink New Zealand
- K Cyclodina oliveri Marbled Skink New Zealand
- V Cyclodina whitakeri
  Whitaker's Skink
  New Zealand
- V Egernia kintorei Great Desert Skink Australia

- E Eulamprus leuraensis
  Blue Mountain Water Skink
  Australia
- R Eumeces kishinouyei Kishinoue's Giant Skink Japan; Nansei-shoto
- K Isopachys gyldenstolpei Gyldenstolpe's Worm Skink Thailand
- E Leiolopisma bomalonotum Chevron Skink New Zealand
- V Leiolopisma grande Grand Skink New Zealand
- I Leiolopisma microlepis Small-scaled Skink New Zealand
- I Leiolopisma notosaurus Southern Skink New Zealand
- K Leiolopisma otagense Otago Skink New Zealand
- K Leiolopisma striatum Striped Skink New Zealand
- R Leiolopisma telfairii
  Round Island Skink
  Mauritius: Round Island
- E Lerista allanae Allan's Lerista Australia
- V Lerista vittata Mount Cooper Striped Lerista Australia
- K Lygosoma haroldyoungi
   Banded Supple Skink
   Thailand
- K Lygosoma koratense Korat Supple Skink Thailand
- V Neoseps reynoldsi Sand Skink USA
- V Niveoscincus palfreymani Pedra Branca Skink Australia: Pedra Branca Island

- I Phoboscincus bocourti New Caledonia
- V Pseudemoia lichenigera
  Lord Howe Island Skink
  Australia: Lord Howe Island, Norfolk Island
- R Scelotes guentheri
  Günther's Dwarf Burrowing Skink
  South Africa
- R Scelotes kasneri
  Kasner's Dwarf Burrowing Skink
  South Africa
- R Scelotes gronovii Gronovi's Dwarf Burrowing Skink South Africa
- E Tiliqua adelaidensis
  Pygmy Bluetongue
  Australia
- I Tribolonotus ponceleti
  Solomon Islands: Shortland Island
- R Typhlosaurus lomii
  Lomi's Blind Legless Skink
  South Africa

#### Family ANGUIDAE

- E Abronia montecristoi
  El Salvador
- I Celestus duquesneyi Jamaica
- I Celestus fowleri Jamaica
- I Celestus microblepharis
  Jamaica
- E Diploglossus anelpistus
  Dominican Republic
- K Diploglossus carruai Dominican Republic
- I Diploglossus montisserrati
  Montserrat
- K Diploglossus warreni Dominican Republic
- K Gerrhonotus panamintus Panamint Alligator Lizard USA

# Family HELODERMATIDAE

I Heloderma horridum Beaded Lizard Guatemala; Mexico V Heloderma suspectum Gila Monster Mexico; USA

## Family VARANIDAE

I Varanus flavescens
 Yellow Monitor
 Bangladesh; India; Nepal; Pakistan

R Varanus komodoensis
Komodo Dragon
Indonesia: Komodo and adjacent islands

R Varanus olivaceus (Varanus grayi) Gray's Monitor Philippines: Luzon

#### Order SERPENTES

# Family TYPHLOPIDAE

V Ramphotyphlops exocoeti
Christmas Island Blind Snake
Christmas Island

R Typhlops monensis

Mona Blind Snake

Puerto Rico: Isla Mona

## Family ANILIIDAE

K Anomochilus leonardi
 Leonard's Pipe Snake
 Malaysia: Peninsular Malaysia

#### Family BOIDAE

K Acrantophis dumerili
Dumeril's Boa
Madagascar
[Réunion]?

K Acrantophis madagascariensis
 Madagascar Boa
 Madagascar

E Aspidites ramsayi
Woma
Australia

E Casarea dussumieri
Round Island Keel-scaled Boa
Mauritius: Round Island

I Epicrates angulifer
Cuban Tree Boa
Cuba

K Epicrates inornatus
Puerto Rican Boa
Puerto Rico

V Epicrates subflavus Jamaican Boa Jamaica

V Python molurus
Indian Python
Bangladesh; Cambodia; China; Hong Kong;
India; Indonesia; Laos; Myanmar, Nepal;
Pakistan; Sri Lanka; Thailand; Viet Nam

K Sanzinia madagascariensis Madagascar Tree Boa Madagascar

## Family COLUBRIDAE

R Achalinus werneri Amami Takachiho Snake Japan: Nansei-shoto

I Adelphicos daryi Guatemala

E Alsophis antiguae
Antiguan Racer
Antigua and Barbuda: Great Bird Island

E Alsophis ater
Black Racer
Jamaica

V Alsophis rijersmai
Leeward Island Racer
Anguilla; Guadeloupe: including Saint Martin;
Netherlands Antilles: Sint Maarten (ex?)

V Alsophis rufiventris
Red-bellied Racer
Netherlands Antilles: Saba, Saint Eustatius;
Saint Kitts-Nevis

R Calamaria pfefferi
(synonym of the widespread C. pavimentata?)
Pfeffer's Reed Snake
Japan

R Chironius vincenti Saint Vincent

V Coluber cypriensis Cyprus

R Elachistodon westermanni Indian Egg-eating Snake Bangladesh; India; Nepal

K Elaphe situla
Leopard Snake
Albania; Bulgaria; Greece; Italy; Malta;

Turkey; Ukraine; Yugoslavia

R Homoroselaps dorsalis
Striped Harlequin Snake
South Africa: Swaziland

- I Iguanognathus werneri Indonesia: Sumatra
- R Lamprophis fiskii Fisk's House Snake South Africa
- R Lamprophis fuscus
  Yellow-bellied House Snake
  South Africa
- R Lamprophis swazicus Swazi Rock Snake South Africa; Swaziland
- E Liophis cursor

  Martinique: Rocher de Diamant
- E Liophis ornatus
  Saint Lucia: Maria Major Island
- I Liophis perfuscus
  Barbados
- I Natrix megalocephala
   Large-headed Water Snake
   Azerbaijan; Georgia; Russia; Turkey
- R Oligodon nikhili India: Palni Hills
- R Opheodrys herminae (Liopeltis herminae) Sakashima Green Snake Japan; Nansei-shoto
- E Opisthotropis kikuzatoi (Liopeltis kikuzatoi) Kikuzato's Brook Snake Japan: Nansei-shoto
- K Opisthotropis spenceri Smith's Mountain Keelback Thailand
- K Parahelicops boonsongi Boonsong's Keelback Thailand
- R Pareas iwasakii Iwasaki's Snail-eater Japan: Nansei-shoto
- V Philodryas chamissonis Chile
- R Thamnophis gigas
  (Thamnophis couchi gigas)
  Giant Garter Snake
  USA

- R Thamnophis hammondi (Thamnophis couchi hammondi) Two-striped Garter Snake Mexico; USA
- R Thermophis baileyi
  China: Tibet
- R Xenocalamus transvaalensis
  Transvaal Quillsnout Snake
  Mozambique; South Africa

## Family ELAPIDAE

- V Austrelaps labialis
  Pygmy Copperhead
  Australia
- V Denisonia maculata Ornamental Snake Australia
- V Echiopsis atriceps Lake Cronin Snake Australia
- V Echiopsis curta Australia
- V Elapognathus minor Short-nosed Snake Australia
- V Furina dunmalli Dunmall's Snake Australia
- V Hoplocephalus bungaroides Broad-headed Snake Australia
- K Naja oxiana
   Central Asian or Oxus Cobra
   Afghanistan; India; Iran; Pakistan; Tajikistan;
   Turkmenistan; Uzbekistan
- I Ogmodon vitianus Fiji Snake Fiji: Viti Levu
- E Simoselaps calonotus Black-striped Snake Australia

# Family HYDROPHIIDAE

R Laticauda crockeri
Solomon Islands: Lake Te-Nggana, Rennell
Island

## Family VIPERIDAE

- R Bitis inornata
  Plain Mountain Adder
  South Africa
- K Bitis schneideri
   Namaqua Dwarf Adder
   Namibia; South Africa
- I Bothrops insularis
  Golden Lancehead
  Brazil: Queimada Island
- R Crotalus unicolor (Crotalus durissus unicolor) Aruba Island Rattlesnake Aruba
- R Trimeresurus cornutus Viet Nam
- R Trimeresurus mangshanensis China: Mt Mang, Hunan Province
- R Vipera albizona (V. xanthina albizona) Turkey
- I Vipera bornmuelleri (V. xanthina bornmuelleri) Lebanon; Syria
- I Vipera bulgardaghica Turkey

- R Vipera darevskii (V. kaznakovi darevskii) Armenia; Georgia
- R Vipera dinniki (V. kaznakovi dinniki) Georgia; Russia
- V Vipera kaznakovi Caucasian Viper Georgia; Russia; Turkey
- E Vipera latifii
  Latifi's Viper
  Iran: Lar Valley in Elburz Mts.
- K Vipera pontica Georgia?; Turkey
- I Vipera raddei (Vipera xanthina raddei) Armenian Viper Armenia; Iran; Turkey
- Vipera schweizeri
   (Macrovipera schweizeri, Vipera lebetina schweizeri)
   Cyclades Blunt-nosed Viper
   Greece: Kimolos, Milos, Polyaigos, Siphnos
- I Vipera wagneri Iran; Turkey



#### Class AMPHIBIA

#### Order ANURA

#### Family BUFONIDAE

- R Bufo amatolica Amatola Toad South Africa
- V Bufo atacamensis Chile
- V Bufo chilensis Chile
- R Bufo exsul
  (Bufo boreas exsul)
  Black Toad
  USA
- E Bufo houstonensis
  Houston Toad
  USA
- E Bufo periglenes
  Golden Toad
  Costa Rica: Cordillera de Tilaran (ex?)
- V Bufo retiformis Sonoran Green Toad Mexico; USA
- R Capensibufo rosei
  Cape Mountain Toad
  South Africa
- V Nectophrynoides occidentalis (Nimbaphrynoides occidentalis) Mt. Nimba Viviparous Toad Côte d'Ivoire; Guinea; Liberia?
- I Pedostibes kempi Garo Hill Tree Toad India: Assam, Garo Hills
- I Pedostibes tuberculosus Malabar Tree Toad India
- V Peltophryne lemur
  Puerto Rican Crested Toad
  British Virgin Islands; Puerto Rico

#### Family DISCOGLOSSIDAE

- E Alytes muletensis
  (Baleaphryne muletensis)
  Ferreret
  Spain: Mallorca
- R Discoglossus jeanneae (Discoglossus galganoi jeanneae) Spain

#### R Discoglossus montalentii France: Corsica

#### Family HELEOPHRYNIDAE

- E Heleophryne hewitti
  Hewitt's Ghost Frog
  South Africa: Elandsberg Mountains
- E Heleophryne rosei
  Table Mountain Ghost Frog
  South Africa: Table Mountain

#### Family HYLIDAE

- K Hyla albolineata Brazil
- R Hyla andersonii
  Pine Barrens Tree Frog
  USA
- K Hyla izecksohni Brazil
- K Hyla langei Brazil
- K Hyla secedens Brazil
- I Hyla vasta
  Dominican Republic; Haiti
- K Litoria aurea
  Green and Golden Bell Frog
  Australia
- V Litoria brevipalmata Green-thighed Frog Australia
- K Litoria dentata
  Bleating Tree Frog
  Australia
- K Litoria castanea
  Yellow-spotted Tree Frog
  Australia
- K Litoria lesueuri Lesueur's Frog Australia
- V Litoria nannotis
  Torrent Tree Frog
  Australia
- E Litoria nyakalensis Nyakala Frog Australia
- V Litoria pearsoniana Pearson's Frog Australia

Family LEPTODACTYLIDAE V Litoria piperata Peppered Tree Frog Alsodes barrioi Australia Chile K Litoria raniformis Ē Alsodes montanus Southern Bell Frog Chile Australia E Alsodes nodosus Litoria rhencola Chile Creek Frog Alsodes tumultuosos Australia E Chile Litoria spenceri E Spotted Frog V Alsodes vanzolinii Australia Chile K Litoria verreauxii K Atelognathus grandisonae Whistling Tree Frog Chile Australia I Atelognathus nitoi V Nyctimystes dayi Argentina: Laguna Verde Day's Frog R Atelognathus reverberii Australia Argentina: Somuncurá plateau Phrynomedusa fimbriata K R Atelognathus solitarius Brazil Argentina: Las Bayas stream Family HYPEROLIIDAE K Batrachophrynus macrostomus Afrixalus aureus Lake Junin (Giant) Frog Golden Dwarf Reed Frog (Lake Junin) Mozambique; South Africa; Swaziland Bolivia: Peru Hyperolius pickersgilli R V Caudiverbera caudiverbera Pickersgill's Reed Frog Chile South Africa I Eleutherodactylus cavernicola R Leptopelis xenodactylus Jamaica Long-toed Tree Frog R Eleutherodactylus fuscus South Africa Jamaica R Tachycnemis seychellensis R Eleutherodactylus jasperi (Megalixalus seychellensis, Megalixalus Golden Coqui Frog infraridus) Puerto Rico Seychelle Islands Tree Frog Seychelle Islands Ι Eleutherodactylus junori Jamaica Family LEIOPELMATIDAE E Eleutherodactylus karlschmidtii R Leiopelma archeyi Puerto Rico Archey's Frog New Zealand: North Island (Coromandel Ι Eleutherodactylus semipalmatus Peninsula) Haiti Leiopelma hamiltoni R Eleutherodactylus sisyphodemus Hamilton's Frog Jamaica New Zealand: Stephen Island, Maud Island R Eupsophus insularis R Leiopelma hochstetteri Chile Hochstetter's Frog New Zealand: North Island E Eupsophus migueli

Chile

Е	Insuetophrymus acarpicus Chile	v	Geocrinia vitellina Yellow-bellied Frog
K	Leptodactylus marambaiae Brazil	K	Australia  Heleioporus albopunctatus
I	Paratelmatobius gaigeae Brazil: Serra da Bocaina		Western Spotted Frog Australia
V	Somuncuria somuncurensis (Telmatobius somuncurensis) Somuncura Frog	K	Lechriodus fletcheri Fletcher's Frog Australia
Е	Argentina: Somuncurá plateau  Telmatobius atacamensis  Argentina	K	Mixophyes balbus Stuttering Frog Australia
R	Telmatobius halli Chile	K	Mixophyes fasciolatus Great Barred Frog Australia
R	Telmatobius pefauri Chile	E	Mixophyes fleayi Fleay's Frog
V	Telmatobius peruvianus Chile	К	Australia
R	Telmatobius zapahuirensis Chile	K	Mixophyes iteratus Southern Barred Frog Australia
R	Telmatobufo australis Chile	V	Philoria frosti Baw-baw Frog
R	Telmatobufo bullocki Chile	K	Australia: Mt. Baw Baw  Pseudophyrne australis
R	Telmatobufo venustus Chile		Red-crowned Toadlet Australia
Fam	nily MICROHYLIDAE	K	K Pseudophryne bibronii Bibron's Toadlet Australia
V	Breviceps gibbosus		
	Cape Rain Frog South Africa	V	Pseudophryne corroboree Corroboree Frog
R	Breviceps macrops Desert Rain Frog Namibia?; South Africa	E	Australia  Rheobatrachus silus  Cartin Branding France
K	Hyophryne histrio Brazil		Gastric Brooding Frog Australia: Conondale and Blackall Range (ex?)
I	Melanobatrachus indicus Black Microhylid India: Kerala	E	Rheobatrachus vitellinus Northern Gastric-brooding Frog Australia: Eungella National Park (ex?)
Fam	nily MYOBATRACHIDAE	Е	Taudactylus acutirostris Sharp-nosed Torrent Frog
K	Adelotus brevis		Australia
	Tusked Frog Australia	E	Taudactylus diurnus Mount Glorious Torrent Frog
E	Geocrinia alba		Australia

White-bellied Frog Australia E

Taudactylus eungellensis Eungella Torrent Frog

Australia

- E Taudactylus liemi
  Liem's Frog
  Australia
- K Taudactylus pleione
  Pleione's Torrent Frog
  Australia
- E Taudactylus rheophilus
  Tinkling Frog
  Australia
- K Uperoleia marmorata Marbled Toadlet Australia
- K Uperoleia orientalis Alexandra Toadlet Australia

#### Family PIPIDAE

E Xenopus gilli Cape Platanna South Africa

#### Family RANIDAE

- R Anhydrophryne rattrayi Hogsback Frog South Africa: Amatola Mountains
- R Cacosternum capense Cape Caco South Africa
- I Cacosternum poyntoni Poynton's Caco South Africa
- V Conraua goliath (Rana goliath, Gigantorana goliath) Goliath Frog Cameroon; Equatorial Guinea
- E Microbatrachella capensis
  Micro Frog
  South Africa
- E Platymantis insulatus
  Philippines: South Gigante
- R Platymantis spelaeus Philippines: Negros
- K Platymantis vitiensis Fijian Ground Frog Fiji
- K Rana aenea
  Doichang Frog
  Thailand

- R Rana dracomontana
  Drakensberg Frog
  Lesotho; South Africa?
- K Rana fasciculispina
   Spiny-breasted Giant Frog
   Thailand
- V Rana holsti (Babina holsti) Holst's Frog Japan: Nansei-shoto
- R Rana holtzi
  Turkey: Cilician Taurus
- V Rana ishikawae Ishikawa's Frog Japan: Nansei-shoto
- K Rana kohchangae Kohchang Frog Thailand
- V Rana latastei
  Italian Agile Frog
  Italy; Slovenia; Switzerland
- R Rana namiyei Namiye's Frog Japan: Nansei-shoto (Okinawa)
- V Rana subaspera (Babina subaspera) Otton Frog Japan: Nansei-shoto
- K Rana tasanae Smith's Wrinkled Frog Thailand
- R Rana vertebralis
  Water Frog
  Lesotho; South Africa

#### Family RHINODERMATIDAE

- V Rhinoderma darwinii Darwin's Toad Chile
- E Rhinoderma rufum Chile

#### Family SOOGLOSSIDAE

- R Nesomantis thomasseti
  Thomasset's Seychelles Frog
  Seychelles: Mahé, Silhouette
- R Sooglossus gardineri
  Gardiner's Seychelles Frog
  Seychelles: Cerf, Mahé

R Sooglossus sechellensis Seychelles Frog Seychelles: Mahé, Silhouette

#### Order CAUDATA

#### Family AMBYSTOMATIDAE

R Ambystoma lermaense (Ambystoma lermaensis) Lake Lerma Salamander Mexico: Lake Lerma

R Ambystoma mexicanum
Axolotl
Mexico: Lake Xochimilco region

#### Family CRYPTOBRANCHIDAE

I Andrias davidianus
(Megalobatrachus davidianus)
Chinese Giant Salamander
China: tributaries of Yangzi, Yellow and Pearl
Rivers

R Andrias japonicus
(Megalobatrachus japonicus)
Japanese Giant Salamander
Japan: south-west Honshu, central Kyushu

#### Family HYNOBIIDAE

K Batrachuperus mustersi Afghanistan

E Hynobius abei Abe's Salamander Japan: Honshu

R Hynobius dunni Oita Salamander Japan: Kyushu

V Hynobius hidamontanus Hakuba Salamander Japan

R Hynobius okiensis Oki Salamander Japan: Oki Island

R Hynobius stejnegeri Amber-coloured Salamander Japan: Kyushu

E Hynobius takedai Hokuriku Salamander Japan: Honshu

#### Family PLETHODONTIDAE

E Batrachoseps aridus
Desert Slender Salamander
USA

R Batrachoseps simatus
Kern Canyon Slender Salamander
USA

R Batrachoseps stebbinsi
Tehachapi Slender Salamander
USA

R Eurycea nana San Marcos Salamander USA

R Hydromantes brunus Limestone Salamander USA

R Hydromantes shastae Shasta Salamander USA

R Phaeognathus hubrichti
Red Hills Salamander
USA

V Plethodon larselli Larch Mountain Salamander USA

V Plethodon neomexicanus Jemez Mountains Salamander USA

I Plethodon nettingi
(Plethodon richmondi nettingi)
Cheat Mountain Salamander
USA

E Plethodon shenandoah Shenandoah Salamander USA

K Plethodon stormi
 Siskiyou Mts Salamander
 USA

R Speleomantes flavus (Hydromantes flavus) Italy: Sardinia

V Speleomantes genei (Hydromantes genei) Sardinian or Brown Cave Salamander Italy: Sardinia

R Speleomantes imperialis (Hydromantes imperialis) Italy: Sardinia

R Speleomantes supramontes (Hydromantes supramontes) Italy: Sardinia

- E Typhlomolge rathbuni (Eurycea rathbuni) Texas Blind Salamander USA
- K Typhlotriton spelaeus Grotto Salamander USA

#### Family PROTEIDAE

V Proteus anguinus
Olm
Italy; Slovenia; Yugoslavia
[France; Italy]

#### Family SALAMANDRIDAE

- I Chioglossa lusitanica Gold-striped Salamander Portugal; Spain
- R Euproctus platycephalus Sardinian Brook Salamander Italy: Sardinia
- R Mertensiella caucasica Caucasian Salamander Georgia; Turkey

- R Mertensiella luschani Lycian Salamander Greece; Turkey
- K Neurergus crocatus Turkey
- K Neurergus strauchi Turkey
- I Paramesotriton deloustali (Mesotriton deloustali) Vietnamese Salamander Viet Nam: near Hanoi
- V Salamandra aurorae (S. atra aurorae) Golden Salamander Italy: Val d'Assa
- R Salamandra lanzai (S. atra lanzai) Large Alpine Salamander France; Italy

# Class CEPHALASPIDOMORPHI Order PETROMYZONTIFORMES

#### Family PETROMYZONTIDAE

- V Eudontomyzon hellenicus Gavóhelo Greece
- R Lampetra hubbsi Kern Brook Lamprey USA
- R Lampetra macrostoma
  Lake Lamprey
  Canada
- K Mordacia lapicida Chile
- K Mordacia praecox Non-parasitic Lamprey Australia

#### Class ELASMOBRANCHII

#### Order ORECTOLOBIFORMES

#### Family RHINCODONTIDAE

I Rhincodon typus
Whale Shark
(Tropical & warm temperate seas)

#### Order LAMNIFORMES

#### Family LAMNIDAE

K Carcharodon carcharias
Great White Shark
(Sub-tropical & warm temperate seas)

#### Family CETORHINIDAE

K Cetorhinus maximus
Basking Shark
(Temperate waters)

#### Class ACTINOPTERYGII

#### Order ACIPENSERIFORMES

#### Family ACIPENSERIDAE

- V Acipenser brevirostrum Shortnose Sturgeon Canada; USA
- V Acipenser fulvescens Lake Sturgeon Canada: USA

# V Acipenser schrencki Amur Sturgeon (Amur River) China: Russia

# E Acipenser sturio Common Sturgeon

Albania; Algeria; Belgium (ex?); Finland (ex?); France; Germany (ex?); Greece; Iceland (ex?); Ireland (ex?); Italy; Morocco; Netherlands (ex?); Norway (ex?); Poland (ex?); Portugal; Romania; Russia; Spain (ex?); Sweden (ex?); Switzerland?; Turkey; Ukraine; United Kingdom; Yugoslavia (ex?)

- R Huso dauricus Kaluga (Amur River) China; Russia
- E Scaphirhynchus albus Pallid Sturgeon USA
- E Scaphirhynchus suttkusi Alabama Sturgeon USA: Mobile Bay drainage

#### Family POLYODONTIDAE

- V Polyodon spathula Paddlefish USA
- V Psephurus gladius Chinese Paddlefish China

#### Order OSTEOGLOSSIFORMES

#### Family OSTEOGLOSSIDAE

- K Arapaima gigas
  Pirarucu
  Brazil; Guyana; Peru
- Scleropages formosus
   Asian Bonytongue
   Brunei; Cambodia; Indonesia: Bangka,
   Kalimantan, Sumatra; Malaysia: Peninsular
   Malayasia, Sabah, Sarawak; Philippines;
   Singapore; Thailand; Viet Nam
- R Scleropages leichhardti Southern Saratoga Australia

#### Family NOTOPTERIDAE

R Notopterus blanci Indochina Featherback Cambodia; Thailand

K

#### Order CLUPEIFORMES

#### Family CLUPEIDAE

R Clupeoides papuensis
Toothed River Herring
Indonesia: Irian Jaya; Papua New Guinea

#### Family ENGRAULIDAE

K Thryssa scratchleyi Freshwater Anchovy Australia

#### Order CYPRINIFORMES

#### Family CYPRINIDAE

- I Acanthorutilus anatolicus Yağ Baliği Turkey
- I Acanthorutilus crassus
  Turkey
- E Acanthorutilus handlirschi Ciçek Turkey: Lake Eğridir
- I Acanthorutilus meandricus
  Turkey
- I Acanthorhodeus elongatus China: Yunnan (Dianchi Lake)
- E Acheilognathus longipinnis Itasenpara Bitterling Japan: Honshu Island
- I Alburnus akili Turkey
- I Anabarilius polylepis China: Yunnan (Dianchi Lake)
- E Anaecypris hispanica Spain; Portugal
- E Aulopyge hugeli
  Dalmatian Barbelgudgeon
  Yugoslavia
- I Balantiocheilos melanopterus
   Silver Shark
   Brunei; Cambodia; Indonesia: Kalimantan.
   Sumatra; Laos; Malaysia: Peninsular Malaysia.
   Sabah, Sarawak; Thailand
- V Barbus andrewi Cape Whitefish South Africa
- R Barbus brevipinnis Shortfin Barb South Africa

- R Barbus calidus Clanwilliam Redfin South Africa
- R Barbus capensis
  Clanwilliam Yellowfish
  South Africa
- V Barbus comiza Portugal; Spain
- E Barbus erubescens
  Twee River Redfin
  South Africa
- E Barbus euboicus Petrópsaro Greece
- R Barbus guiraonis Spain
- R Barbus haasi Spain
- I Barbus halei Malaysia; Thailand
- R Barbus hospes
  Namaquab Barb
  Namibia; South Africa
- V Barbus kimberleyensis Largemouth Yellowfish Namibia; South Africa
- R Barbus microcephalus Portugal; Spain
- K Barbus motebensis Marico Barb South Africa
- E Barbus prespensis
  Briána
  Greece
- V Barbus serra Sawfin South Africa
- I Barbus somphongsi
  Thailand
- V Barbus treurensis
  Treur River Barb
  South Africa
- E Barbus trevelyani
  Border Barb
  South Africa
- E Caecobarbus geertsi
  African Blind Barb Fish
  Zaire

- R Caecocypris basimi Iraq
- R Capoeta antalyensis Turkey
- V Cephalokompsus pachycheilus Philippines: Mindanao (Lake Lanao)
- E Chalcalburnus tarichi Incikefali Baliği Turkey: Lake Van
- R Chela caeruleostigmata Thailand
- K Chondrostoma lemmingii Portugal; Spain
- R Chondrostoma lusitanicum Portugal
- K Chondrostoma willkommii Portugal; Spain
- V Cyprinella bocagrande Sardinita Bocagrande Mexico
- V Cyprinella caerulea
  Blue Shiner
  USA
- V Cyprinella callitaenia Bluestripe Shiner USA
- V Cyprinella formosa Beautiful Shiner Mexico: USA
- V Cyprinella monacha Turquoise Shiner USA
- E Cyprinella panarcys
  Conchos Shiner
  Mexico
- V Cyprinella proserpina Proserpine Shiner Mexico; USA
- V Cyprinella santamariae Sardinita de Santa Maria Mexico
- E Cyprinella xanthicara
  Cuatro Cienegas Shiner
  Mexico
- V Cyprinella sp. Sardinita Nazas Mexico

- I Cyprinus micristius
  China: Yunnan (Dianchi Lake)
- V Danio pathirana Barred Danio Sri Lanka
- V Dionda diaboli Devil's River Minnow Mexico; USA
- R Dionda dichroma
  Sardinita de Rio Verde
  Mexico
- E Dionda mandibularis Sardinita Quijarrona Mexico
- V Eremichthys acros Desert Dace USA
- R Garra barreimiae Bahrain; Oman
- R Garra dunsirei Oman
- V Garra phillipsi Philipps' Garra Sri Lanka
- V Gila alvordensis Alvord Chub USA
- V Gila boraxobius Borax Lake Chub USA
- E Gila cypha Humpback Chub USA
- V Gila ditaenia Charalito Sonorense Mexico; USA
- E Gila elegans
  Bonytail Chub
  Mexico; USA
- R Gila intermedia Gila Chub Mexico; USA
- E Gila modesta
  Charalito Saltillo
  Mexico
- V Gila nigrescens Charalito Chihuahua Mexico; USA

- V Gila purpurea Yaqui Chub Mexico; USA
- I Gobio hettitorum Derekaya Baliği Turkey
- I Hemigrammocapoeta kemali Turkey
- R Hemitremia flammea Flame Chub USA
- R Hybognathus amarus
  Rio Grande Minnow
  USA
- V Hybopsis cahni Slender Chub USA
- V Hybopsis gelida Sturgeon Chub USA
- V Hybopsis meeki Sicklefin Chub USA
- K Iberocypris palaciosi Spain
- E Iotichthys phlegethontis
  Least Chub
  USA
- R Iranocypris typhlops Iran
- E Labeo fisheri Green Labeo Sri Lanka
- E Labeo seeberi
  Calnwilliam Sandfish
  South Africa
- V Ladigesocypris ghigii Ghizáni Greece: Rhodes
- E Lepidomeda albivallis White River Spinedace USA
- V Lepidomeda vittata
  Little Colorado Spinedace
  USA
- R Leuciscus carolitertii
  Portugal?; Spain

- V Mandibularca resinus Philippines: Mindanao (Lake Lanao)
- V Meda fulgida Spikedace USA
- E Moapa coriacea Moapa Dace USA
- V Notropis aguirrepequenoi Sardinita del Pilon Mexico
- R Notropis buccula Smalleye Shiner USA
- E Notropis cahabae Cahaba Shiner USA
- R Notropis hubbsi Bluehead Shiner USA
- R Notropis imeldae Sardinita de Rio Verde Mexico
- I Notropis jemezanus Rio Grande Shiner USA
- E Notropis mekistocholas Cape Fear Shiner USA
- V Notropis melanostomus Blackmouth Shiner USA
- R Notropis moralesi
  Sardinita de Tepelmene
  Mexico
- R Notropis oxyrhynchus Sharpnose Shiner USA
- R Notropis perpallidus Colorless Shiner USA
- E Notropis saladonis Sardinita de Salado Mexico
- R Notropis semperasper
  Roughhead Shiner
  USA

E Notropis simus R Pseudobarbus asper Smallscale Redfin Bluntnose Shiner South Africa IISA Pseudobarbus burchelli Notropis snelsoni R R **Ouachita Mountain Shiner** Burchell's Redfin South Africa **USA** E Pseudobarbus burgi R Notropis welaka Bluenose Shiner Berg River Redfin South Africa USA E Pseudobarbus phlegethon V Oregonichthys crameri Oregon Chub Fiery Redfin South Africa **USA** Pseudobarbus quathlambae R Oregonichthys kalawatseti E Maluti Minnow Umpqua chub USA Lesotho Pseudobarbus tenuis Ospatulus palaemophagus Philippines: Mindanao (Lake Lanao) Slender Redfin South Africa V Ospatulus truncatus Philippines: Mindanao (Lake Lanao) Pseudophoxinus beoticus Paskóviza Ι Pararhodeus meandri Greece Ot Baliği Pseudophoxinus stymphalicus Turkey Dáska R Phenacobius teretulus Greece Kanawha Minnow E Ptychocheilus lucius **USA** Colorado Squafish Ι Phoxinellus fahirae USA Incilevrek Baliği Puntius amarus Turkey Philippines: Mindanao (Lake Lanao) E Phoxinus cumberlandensis Mountain Blackside Dace R Puntius asoka **USA** Asoka Barb Sri Lanka R Phoxinus tennesseensis Tennessee Dace Puntius baoulan Philippines: Mindanao (Lake Lanao) **USA** Puntius cataractae E Plagopterus argentissimus Woundfin **Philippines USA** Puntius clemensi R Pogonichthys macrolepidotus Philippines: Mindanao (Lake Lanao) Sacramento Splittail Puntius cumingii **USA** Two Spot Barb Sri Lanka K Probarbus jullieni Ikan Temoleh Puntius disa Cambodia: Malaysia: Peninsular Laos: Philippines: Mindanao (Lake Lanao) Malaysia; Thailand; Viet Nam Puntius flavifuscus R Pseudobarbus afer Philippines: Mindanao (Lake Lanao) Eastern Cape Redfin V Puntius herrei South Africa

**Philippines** 

V Puntius katalo
Philippines: Mindanao (Lake Lanao)

V Puntius lanaoensis
Philippines: Mindanao (Lake Lanao)

R Puntius lindong
Philippines: Mindanao (Lake Lanao)

V Puntius mamalak
Philippines: Mindanao (Lake Lanao)

V Puntius nigrofasciatus Black Ruby Barb Sri Lanka

V Puntius pleurotaenia Side Striped Barb Sri Lanka

R Puntius sirang
Philippines: Mindanao (Lake Lanao)

E Puntius srilankensis Sri Lanka

V Puntius titteya Cherry Barb Sri Lanka

V Puntius tras
Philippines: Mindanao (Lake Lanao)

R Puntius tumba
Philippines: Mindanao (Lake Lanao)

V Rasbora vaterifloris Vateria Flower Rasbora Sri Lanka

R Relictus solitarius Relict Dace USA

R Rutilus lemmingii Portugal?; Spain

R Semotilus lumbee Sandhills Chub USA

R Sinocyclocheilus anophthalmus China

V Spratellicypris palata Philippines: Mindanao (Lake Lanao)

E Tanakia tanago Tokyo Bitterling Japan

V Tiaroga cobitis Loach Minnow USA I Tylognathus klatti Saz Baliği Turkey

R Typhlobarbus nudiventris China

R Typhlogarra widdowsoni Iraq

E Varicorhinus alticorpus Taiwan

R Vimba melanops Malamída Greece

Family COBITIDAE

V Cobitis calderoni Portugal; Spain

I Cobitis haasi Spain

V Cobitis paludica Portugal; Spain

V Cobitis stephanidisi Greece

E Lepidocephalichthys jonklaasi Spotted Loach Sri Lanka

E Leptobotia curta Ayumodoki Japan

Family BALITORIDAE

V Acanthocobitis urophthalmus Banded Mountain Loach Sri Lanka

R Nemacheilus troglocataractus Thailand: Tham Sai Yok Noi

R Nemacheilus gejiuensi China: Bajianjing, Yunnan Province

R Nemacheilus smithi
Iran: Baq-e-Loveh pool, Zagros Mountains

R Nemacheilus xianggensis China: Xiangxi, Hunan Province

R Oreonectes anophthalmus China

R Schistura jarutanini
Thailand: Amphoe Sri Sawat, Kanchanaburi
Province

- R Schistura oedipus
  Thailand: Tham Nam Lang, Mae Hong Son
  Province
- R Schistura sijuensis India
- R Sundoreonectes tiomanensis Malaysia
- R Troglocobitis starostini
  Turkmenistan: Kugitangtau mountains
- E Yunnanilus nigromaculatus China: Yunnan (Dianchi Lake)

#### Family CATOSTOMIDAE

- V Catostomus bernardini Yaqui Sucker Mexico; USA
- V Catostomus cahita Matalote Cahita Mexico
- R Catostomus conchos Matalote Conchos Mexico
- R Catostomus leopoldi Matalote del Bavispe Mexico
- E Catostomus microps Modoc Sucker USA
- R Catostomus santaanae Santa Ana Sucker USA
- R Catostomus snyderi
  Klamath largescale sucker
  USA
- E Catostomus warnerensis
  Warner Sucker
  USA
- R Catostomus wigginsi
  Matalote Opata
  Mexico
- E Catostomus sp. Salish Sucker Canada; USA
- E Chasmistes brevirostris
  Shortnose Sucker
  USA
- E Chasmistes cujus Cui-ui USA

- R Cycleptus elongatus
  Blue Sucker
  Mexico; USA
- E Deltistes luxatus Lost River Sucker USA
- R Moxostoma ariommumm Bigeye Jumprock USA
- R Moxostoma atripinne Blackfin Sucker USA
- R Moxostoma congestum Gray Redhorse Mexico; USA
- R Moxostoma hamiltoni Rustyside Sucker USA
- V Moxostoma hubbsi Copper Redhorse Canada
- V Moxostoma sp. Bighead Redhorse USA
- E Xyrauchen texanus Razorback Sucker USA

#### Order CHARACIFORMES

#### Family CHARACIDAE

- E Catabasis acuminatus Brazil
- V Cheirodon australe Chile
- V Cheirodon galusdae Chile
- V Cheirodon kiliani Chile
- V Cheirodon pisciculus Chile
- V Gymnocharacinus bergi Naked Characin Argentina

#### Order SILURIFORMES

#### Family DIPLOMYSTIDAE

E Diplomystes camposensis
Chile

- E Diplomystes chilensis
  Tollo de Agua Dulce
  Chile
- E Diplomystes nahuelbutensis
  Chile

#### Family ICTALURIDAE

- R Ictalurus australis
  Bagre del Panuco
  Mexico
- R Ictalurus lupus Bagre Lobo Mexico; USA
- R Ictalurus mexicanus
  Bagre de Rio Verde
  Mexico
- R Ictalurus pricei
  Bagre de Yaqui
  Mexico
- R Ictalurus sp.
   Bagre de Cuatro Cienegas
   Mexico
- E Noturus baileyi Smoky Madtom USA
- V Noturus flavipinnis Yellowfin Madtom USA
- R Noturus furiosus Carolina Madtom USA
- V Noturus gilberti Orangefin Madtom USA
- V Noturus lachneri Ouachita Madtom USA
- V Noturus munitus Frecklebelly Madtom USA
- V Noturus placidus Neosho Madtom USA
- E Noturus stanauli Pygmy Madtom USA
- V Noturus taylori Caddo Madtom USA

- E Noturus trautmani Scioto Madtom USA
- E Prietella phreatophila
  Bagre de Muzquiz
  Mexico
- V Satan eurystomus Widemouth Blindcat USA
- V Trogloglanis pattersoni Toothless Blindcat USA

#### Family BAGRIDAE

- E Austroglanis barnardi
  Barnard's Rock-catfish
  South Africa
- R Austroglanis gilli
  Clanwilliam Rock-catfish
  South Africa
- I Austroglanis sclateri Rock-catfish South Africa
- E Coreobagrus ichikawai Nekogigi Japan
- I Leiocassis medianalis
  China: Yunnan (Dianchi Lake)
- R Pardiglanis tarabinii
  Giant Catfish
  Somalia: Jubba River
- E Pseudobagrus sp. Gibachi Japan: Kyushu Island

#### Family SILURIDAE

K Silurus mento China: Yunnan (Dianchi Lake)

#### Family PANGASHDAE

- V Pangasianodon gigas
  Giant Catfish
  Cambodia; China: Yunnan Province; Laos;
  Myanmar; Thailand; Viet Nam
- R Pangasius sanitwongsei
  Pla Thepa
  Cambodia; Laos; Thailand; Viet Nam

#### Family AMBLYCIPITIDAE

I Liobagrus nigricauda
China: Yunnan (Dianchi Lake)

#### Family SISORIDAE

I Oreoglanis siamensis
Thailand

#### Family CLARIIDAE

E Clarias cavernicola Cave Catfish Namibia

R Horaglanis krishnai Cave Catfish India

#### Family HETEROPNEUSTIDAE

V Heteropnuestes microps Sri Lanka

#### Family ARIIDAE

K Ancharius brevibarbus Madagascar

V Arius taylori
Taylor's Catfish
Indonesia: Irian Jaya; Papua New Guinea

K Cinetodus froggatti
Small Mouthed Catfish
Australia

I Tetranesodon conorhynchus Lorentz Catfish Indonesia: Irian Jaya

#### Family PLOTOSIDAE

R Neosilurus sp. 1 Dalhousie Catfish Australia

R Neosilurus sp. 2 Cooper Creek Tandan Australia

K Neosilurus sp. 3
 False Spine Catfish
 Australia

V Oloplotosus torobo
Kutubu Tandan
Papua New Guinea

R Tandanus sp.
Belinger River Tandan
Australia

#### Family MOCHOKIDAE

V Chiloglanis bifurcus Incomati Rock Catlet South Africa K Chiloglanis swierstrai
 Lowveld Rock Catlet
 Mozambique; South Africa; Zimbabwe

#### Family PIMELODIDAE

V Rhamdia reddelli Juil Ciego Mexico

#### Family TRICHOMYCTERIDAE

V Bullockia maldonadoi Chile

I Eremophilus mutisii
Colombia: Bogotá area

E Nematogenys inermis
Chile

V Trichomycterus areolatus Chile

E Trichomycterus chiltoni
Chile

E Trichomycterus chungarensis Chile

E Trichomycterus laucaensis Chile

E Trichomycterus rivulatus Chile

#### Order SALMONIFORMES

#### Family UMBRIDAE

R Novumbra hubbsi Olympic Mudminnow USA

#### Family LEPIDOGALAXIIDAE

R Lepidogalaxias salamandroides Salmanderfish Australia

#### Family OSMERIDAE

V Hypomesus transpacificus Delta Smelt USA

R Osmerus spectrum
Pygmy Smelt
Canada; USA

#### Family SALANGIDAE

E Neosalanx regani
Ariakehimeshirauo
Japan: Kyushu Island

#### Family RETROPINNIDAE

V Prototroctes maraena Australian Grayling Australia: Tasmania

#### Family GALAXIIDAE

- K Aplochiton marinus
  Chile
- V Brachygalaxias bullocki Chile
- V Brachygalaxias gothei Chile
- E Galaxias fontanus Swan Galaxias Australia: Tasmania
- E Galaxias fuscus
  Barred Galaxias
  Australia
- E Galaxias globiceps Chile
- V Galaxias gracilis Dwarf Inanga New Zealand
- E Galaxias johnstoni Clarence Galaxias Australia: Tasmania
- K Galaxias parvus
   Small Pedder Galaxias
   Australia: Tasmania
- E Galaxias pedderensis
  Pedder Galaxias
  Australia: Tasmania
- R Galaxias postvectis Shortjawed Kokopu New Zealand
- R Galaxias rostratus Murray Jollytail Australia
- V Galaxias sp. New Zealand: Waipori River
- V Galaxias tanycephalus Saddled Galaxias Australia: Tasmania
- R Galaxiella nigrostriata
  Black-Striped Minnow
  Australia

- V Galaxiella pusilla Dwarf Galaxias Australia: Tasmania
- V Neochanna burrowsius Canterbury Mudfish New Zealand
- R Neochanna diversus
  Black Mudfish
  New Zealand
- R Paragalaxias mesotes
  Arthurs Paragalaxias
  Australia

#### Family SALMONIDAE

- R Coregonus artedii
  Cisco
  (Great Lakes)
  Canada; USA
- E Coregonus canadensis
  Atlantic Whitefish
  (Great Lakes)
  Canada; USA
- R Coregonus heyi Bloater (Great Lakes) Canada; USA
- V Coregonus kiyi Kiyi (Great Lakes) Canada; USA
- E Coregonus nigripinnis
  Blackfin Cisco
  (Great Lakes)
  Canada: USA
- E Coregonus oxyrhynchus
  Houting
  Denmark; Estonia; Finland; Germany; Ireland;
  Latvia; Lithuania; Norway; Poland; Russia;
  Sweden; United Kingdom
- E Coregonus reighardi Shortnose Cisco (Great Lakes) Canada; USA
- E Coregonus zenithicus Shortjaw Cisco (Great Lakes) Canada; USA
- E Coregonus sp. 1 Opeongo Whitefish Canada

V Coregonus sp. 2 Squanga Whitefish Canada

E Hucho hucho Danube Salmon

> Austria; Czech Republic; France; Germany; Italy; Moldavia?; Poland; Romania; Slovakia; Switzerland; Ukraine; Yugoslavia

V Onchorhynchus apache Apache Trout USA

V Onchorhynchus chrysogaster Mexican Golden Trout Mexico

V Onchorhynchus gilae Gila Trout USA

E Onchorhynchus ishikawai Satsukimasu Salmon Japan: Nagara River, Honshu Island

E Onchorhynchus iwame Iwame Trout Japan

R Onchorhynchus sp.
Trucha de Yaqui
Mexico

I Salmo platycephalus Ala Balik Turkey

E Salmothymus obtusirostris
Adriatic Salmon
Yugoslavia

R Salvelinus anaktuvukensis Angayukaksurak Char USA

I Salvelinus confluentus
Bull Trout
Canada; USA

E Salvelinus japonicus
Kirikuchi Char
Japan: Totsukawa River, Honshu Island

#### Order PERCOPSIFORMES

#### Family AMBLYOPSIDAE

V Amblyopsis rosae Ozark Cavefish USA V Amblyopsis spelaea Northern Cavefish USA

E Speoplatyrhinus poulsoni Alabama Cavefish USA

#### Order OPHIDIIFORMES

#### Family BYTHITIDAE

I Lucifuga spelaeotes
 New Providence Cusk-eel
 Bahamas: Mermaids Pool, New Providence
 Island

E Typhliasina pearsei
Dama Ciega Blanca
Mexico

E Typhliasina sp.
Nueva Dama Ciega
Mexico

#### Order CYPRINODONTIFORMES

#### Family APLOCHEILIDAE

E Campellolebias brucei
Santa Catarina Sabrefin
Brazil

R Cynolebias boitonei
Brasilia Lyrefin
Brazil

V Cynolebias constanciae Brazil

E Cynolebias marmoratus Ginger Pearlfish Brazil

I Cynolebias minimus Minute Pearlfish Brazil

E Cynolebias opalescens Opalescent Pearlfish Brazil

E Cynolebias splendens Splendid Pearlfish Brazil

E Nothobranchius sp. Caprivi Killifish Namibia

K Pachypanchax homalonotus Madagascar

K Pachypanchax sakaramyi Madagascar

- R Rivulus marmoratus Rivulus USA
- R Rivulus robustus
  Rivulus Almirante
  Mexico

#### Family CYPRINODONTIDAE

- I Aphanius anatolias Dislisazancik Baliği Turkey
- I Aphanius burduricus Turkey
- I Aphanius chantrei Dislisazancik Baliği Turkey
- E Aphanius iberus Spain
- R Crenichthys baileyi
  White River Springfish
  USA
- V Crenichthys nevadae Railroad Valley Springfish USA
- E Cualac tessellatus
  Cachorrito de Media Luna
  Mexico
- V Cyprinodon alvarezi
  Perrito de Potosi
  Mexico
- R Cyprinodon atrorus
  Perrito del Bolson
  Mexico
- V Cyprinodon beltrani Cachorrito Lodero Mexico
- R Cyprinodon bifasciatus
  Perrito de Cuatro Cienegas
  Mexico
- E Cyprinodon bovinus Leon Springs Pupfish USA
- V Cyprinodon diabolis Devils Hole Pupfish USA
- E Cyprinodon elegans
  Comanche Springs Pupfish
  USA

- E Cyprinodon fontinalis
  Perrito de Carbonera
  Mexico
- V Cyprinodon labiosus Cachorrito Cangrejero Mexico
- V Cyprinodon macrolepis
  Largescale Pupfish
  Mexico
- V Cyprinodon maya Cachorrito Gigante Mexico
- E Cyprinodon meeki
  Cachorrito de Mezquital
  Mexico
- V Cyprinodon nazas
  Cachorrito del Aguanaval
  Mexico
- E Cyprinodon pachycephalus Cachorrito Cabezon Mexico
- V Cyprinodon pecosensis Pecos Pupfish USA
- E Cyprinodon radiosus
  Owens Pupfish
  USA
- V Cyprinodon simus Cachorrito Boxeador Mexico
- R Cyprinodon tularosa
  White Sands Pupfish
  USA
- V Cyprinodon verecundus Cachorrito de Dorsal Larga Mexico
- R Fundulus julisia
  Barrens Topminnow
  USA
- V Fundulus lima Killifish Mexico
- V Fundulus waccamensis
  Waccamaw Killifish
  USA
- E Lucania interioris
  Sardinilla Cuatro Cienegas
  Mexico

V Kosswigichthys asquamatus Scaleless Killifish Turkey E Megupsilon aporus Cachorrito Enano de Potosi Mexico I Micropanchax schoelleri Egypt E Orestias chungarensis Chile Ē Orestias cuvieri Bolivia E Orestias laucaensis Chile E Orestias parinacotensis Chile K Pantanodon madagascariensis Madagascar E Valencia hispanica Valencia Toothcarp Spain E Valencia letourneuxi Zournás

# Greece Family GOODEIDAE

- E Allotoca maculata
  Opal Goodeid
  Mexico
- E Ameca splendens Goodeid Mexico
- E Ataeniobius toweri
  Striped Goodeid
  Mexico
- V Characodon audax Bold Characodon Mexico
- E Characodon lateralis
  Rainbow Goodeid
  Mexico
- E Girardinichthys multiradiatus Mexico
- E Girardinichthys viviparus Mexclapique Mexico
- V Goodea gracilis Mexico

- E Hubbsina turneri Mexico
- E Skiffia francesae Tiro Mexico
- E Xenoophorus captivus Solo Goodeido Mexico

#### Family POECILIDAE

- I Gambusia aestiputeus Colombia: San Ardrés
- V Gambusia alvarezi
  Guayacon de San Gregorio
  Mexico
- R Gambusia eurystoma Guayacon Bocon Mexico
- E Gambusia gaigei
  Big Bend Gambusia
  USA
- V Gambusia heterochir Clear Creek Gambusia USA
- V Gambusia hurtadoi
  Guayacon de Hacienda Dolores
  Mexico
- I Gambusia krumholzi Mexico
- V Gambusia longispinis Guayacon de Cuatro Cienegas Mexico
- V Gambusia nobilis Pecos Gambusia USA
- R Gambusia senilis Guayacon Pinto Mexico; USA
- I Gambusia speciosa USA
- V Poecilia latipunctata Molly del Tamesi Mexico
- V Poecilia sulphuraria Molly del Teapa Mexico
- I Poecilia vetiprovidentiae Colombia: Isla de Providencia

- I Poeciliopsis monacha Mexico
- R Poeciliopsis occidentalis Charalito Mexico; USA
- R Xiphophorus clemenciae Espada de Clemencia Mexico
- E Xiphophorus couchianus
  Platy Monterrey
  Mexico
- E Xiphophorus gordoni Platy Cuatro Cienegas Mexico
- E Xiphophorus meyeri Platy de Muzquiz Mexico

#### Order BELONIFORMES

#### Family ADRIANICHTHYIDAE

- E Adrianichthys kruyti
  Duck-billed Buntingi
  Indonesia: Sulawesi (Łake Poso)
- V Oryzias marmoratus Indonesia: Sulawesi
- V Oryzias matanensis
   Indonesia: Sulawesi (Malili Lakes)
- V Oryzias nigrimas Black Buntingi Indonesia: Sulawesi (Lake Poso)
- E Oryzias orthognathus
  Sharp-jawed Buntingi
  Indonesia: Sulawesi (Lake Poso)
- V Oryzias profundicola Indonesia: Sulawesi (Malili Lakes)
- E Xenopoecilus oophorus
  Egg-carrying Buntingi
  Indonesia: Sulawesi (Lake Poso)
- E Xenopoecilus poptae
   Popta's Buntingi
   Indonesia: Sulawesi (Lake Poso)
- E Xenopoecilus sarasinorum Indonesia: Sulawesi

#### Family HEMIRAMPHIDAE

- V Dermogenys megarramphus Indonesia: Sulawesi (Malili Lakes)
- V Dermogenys weberi
   Indonesia: Sulawesi (Malili Lakes)

- R Nomoramphus celebensis
  Poso Halfbeak
  Indonesia: Sulawesi (Lake Poso)
- R Zenarchopterus alleni Allen's River Garfish Indonesia: Irian Jaya
- R Zenacrchopterus robertsi Robert's River Garfish Papua New Guinea

#### Order ATHERINIFORMES

#### Family ATHERINIDAE

- V Austromenidia gracilis
  Chile
- V Basilichthys australis Chile
- E Basilichthys microlepidotus
  Chile
- K Bedotia geayi Madagascar
- K Bedotia longianalis Madagascar
- K Bedotia madagascariensis Madagascar
- R Cairnsichthys rhombosomoides Cairns Rainbowfish Australia
- V Cauque mauleanum Chile
- R Chilatherina axelrodi Axelrod's Rainbowfish Indonesia: Irian Jaya; Papau New Guinea
- R Chilatherina bleheri
  Bleher's Rainbowfish
  Indonesia; Irian Jaya
- R Chilatherina bulolo
  Bulolo Rainbowfish
  Papua New Guinea
- R Chilatherina sentaniensis Sentani Rainbowfish Indonesia: Irian Jaya
- K Chirostoma bartoni Charal de la Caldera Mexico
- E Chirostoma regani
  Charal del Valle de Mexico
  Mexico

- R Craterocephalus amniculus
  Darling River Hardyhead
  Australia
- R Craterocephalus centralis Finke River Hardyhead Australia
- R Craterocephalus dalhousiensis
  Dalhousie Hardyhead
  Australia
- V Craterocephalus fluviatillis Murray Hardyhead Australia
- R Craterocephalus gloveri Glovers Hardyhead Australia
- R Craterocephalus helenae Drysdale Hardyhead Australia
- R Craterocephalus kailolae Kailola's Hardyhead Papua New Guinea
- V Craterocephalus lacustris Kutubu Hardyhead Papua New Guinea
- R Craterocephalus lentiginosus Prince Regent Hardyhead Australia
- K Craterocephalus marianae Magela Hardyhead Australia
- R Craterocephalus pimatuae
  Pima Hardyhead
  Papua New Guinea
- R Glossolepis incisus
  Red Rainbowfish
  Indonesia: Irian Jaya
- R Glossolepis maculosus Spotted Rainbowfish Papua New Guinea
- R Glossolepis pseudoincisus
  Tami River Rainbowfish
  Indonesia: Irian Jaya; Papua New Guinea
- R Glossolepis ramuensis Ramu Rainbowfish Papua New Guinea
- R Glossolepis wanamensis
  Lake Wanam Rainbowfish
  Papua New Guinea

- V Kiunga ballochi Glass Blue-Eye Indonesia: Irian Jaya; Papua New Guinea
- R Melanotaenia ajamaruensis Ajamaru Lakes Rainbowfish Indonesia: Irian Jaya
- R Melanotaenia angfa Yakati Rainbowfish Indonesia: Irian Jaya
- R Melanotaenia arfakensis Arfak Rainbowfish Indonesia; Irian Jaya
- Welanotaenia boesemani
   Boeseman's Rainbowfish
   Indonesia: Irian Jaya
- R Melanotaenia catherinae Waigeo Rainbowfish Indonesia: Irian Jaya
- R Melanotaenia corona Corona Rainbowfish Indonesia: Irian Jaya
- R Melanotaenia exquisita Exquisite Rainbowfish Australia
- R Melanotaenia gracilis Slender Rainbowfish Australia
- R Melanotaenia herbertaxelrodi Lake Tebera Rainbowfish Papua New Guinea
- R Melanotaenia iris Strickland Rainbowfish Papua New Guinea
- V Melanotaenia lacustris Lake Kutubu Rainbowfish Papua New Guinea
- R Melanotaenia maylandi Mayland's Rainbowfish Indonesia: Irian Jaya
- R Melanotaenia misoolensis Misool Rainbowfish Indonesia: Irian Jaya
- R Melanotaenia monticola Mountain Rainbowfish Papua New Guinea
- I Melanotaenia ogilbyi Ogilby's Rainbowfish Indonesia: Irian Jaya

- V Melanotaenia oktediensis Oktedi Rainbowfish Papua New Guinea
- R Melanotaenia papuae Papuan Rainbowfish Papua New Guinea
- R Melanotaenia parva
  Lake Kurumoi Rainbowfish
  Indonesia: Irian Jaya
- R Melanotaenia pimanensis Pima River Rainbowfish Papua New Guinea
- R Melanotaenia praecox Dwarf Rainbowfish Indonesia: Irian Jaya
- R Melanotaenia pygmaea Pygmy Rainbowfish Australia
- Welanotaenia sextineata
   Fly River Rainbowfish
   Indonesia: Irian Jaya; Papua New Guinea
- R Melanotaenia vanheurni
   Van Heurn's Rainbowfish
   Indonesia: Irian Jaya
- V Menidia conchorum Key Silverside USA
- V Menidia extensa Waccamaw Silverside USA
- V Poblana alchichica Charal de Alchichica Mexico
- R Poblana ferdebueni Mexico
- V Poblana letholepis Charal de la Preciosa Mexico
- V Poblana squamata Charal de Quechulac Mexico
- R Pseudomugil connieae
  Popondetta Blue-Eye
  Papua New Guinea
- R Pseudomugil furcatus
  Forktail Blue-Eye
  Papua New Guinea

- I Pseudomugil majusculus Cape Blue-Eye Papua New Guinea
- V Pseudomugil mellis Honey Blue-eye Australia
- V Pseudomugil paskai Paska's Blue-Eye Indonesia: Irian Jaya; Papua New Guinea
- V Rheocles alaotrensis Katrana Madagascar
- R Rheocles lateralis Madagascar: Nosivolo River
- I Rheocles pellegrini Madagascar: near Andapa
- E Rheocles sikorae
  Sardine d'eau douce
  Madagascar: near Anosibe, Manambola River
- E Rheocles wrightae

  Madagascar: near Anosibe, Manambola River
- K Teramulus kieneri Madagascar
- E Scaturiginichthys vermeilipinnis Red-finned Blue-eye Australia

#### Family PHALLOSTETHIDAE

I Phallostethus dunckeri Malaysia

#### Family TELMATHERINIDAE

- V Paratherina cyanea Indonesia: Sulawesi (Malili Lakes)
- V Paratherina labiosa Indonesia: Sulawesi (Malili Lakes)
- V Paratherina striata Indonesia: Sulawesi
- V Paratherina wolterecki Indonesia: Sulawesi (Malili Lakes)
- V Telmatherina abendanoni Indonesia: Sulawesi (Malili Lakes)
- V Telmatherina bonti Indonesia: Sulawesi
- V Telmatherina celebensis Indonesia: Sulawesi

R Telmatherina ladigesi Celebes Rainbow Indonesia: Sulawesi

#### Order GASTEROSTEIFORMES

#### Family GASTEROSTEIDAE

- V Gasterosteus sp. 1 Giant Stickleback Canada
- V Gasterosteus sp. 2 Enos Stickleback Canada
- E Pungitius hellenicus Ellinopygósteos Greece
- E Pungitius sp.

  Musashitomiyo

  Japan: near Kumagaya city

#### Order SYNGNATHIFORMES

#### Family SYNGNATHIDAE

- V Hippocampus capensis Knysna Seahorse South Africa
- I Microphis caudocarinatus Slender Pipefish Indonesia: Irian Jaya
- I Microphis spinachoides
  Spinach Pipefish
  Papua New Guinea

#### Order SYNBRANCHIFORMES

#### Family SYNBRANCHIDAE

- K Ophisternon candidum
  Blind Cave Eel
  Australia
- E Ophisternon infernale
  Anguila Ciega
  Mexico

#### Family MASTACEMBELIDAE

E Macrognathus aral Spiny Eel Sri Lanka

#### Order SCORPAENIFORMES

#### Family COTTIDAE

R Cottus asperrimus Rough Sculpin USA

- R Cottus extensus
  Bear Lake Sculpin
  USA
- V Cottus greenei Shoshone Sculpin USA
- R Cottus leiopomus Wood River Sculpin USA
- R Cottus princeps
  Klamath Lake Sculpin
  USA
- E Cottus pygmaeus Pygmy Sculpin USA
- R Cottus tenuis Slender Sculpin USA
- V Myoxocephalus quadricornis Fourhorn Sculpin Canada

#### Order PERCIFORMES

#### Family AMBASSIDAE

- R Ambassis agassizi Agassiz's Perchlet Australia
- K Ambassis elongatus Yellow-Fin Perchlet Australia
- I Parambassis altipinnis
   High-Finned Glass Perchlet
   Indonesia: Irian Jaya
- R Tetracentrum caudovittatus Kokoda Glass Perchlet Papua New Guinea

#### Family PERCICHTHYIDAE

- V Edelia obscura Yarra Pygmy Perch Australia
- E Maccullochella ikei
  Eastern Freshwater Cod
  Australia
- E Maccullochella macquariensis
  Trout Cod
  Australia
- E Maccullochella sp. 1
  Mary River Cod
  Australia

- E Maccullochella sp. 2 Clarence River Cod Australia
- K Macquaria australasica Macquarie Perch Australia
- R Nannatherina balstoni Balston's Pygmy Perch Australia
- V Nannoperca oxleyana Oxleyan Pygmy Perch Australia
- V Nannoperca variegata Ewen's Pygmy Perch Australia
- E Percichthys melanops
  Chile
- V Percilia gillissi Chile
- E Percilla irwini
  Chile

#### Family TERAPONTIDAE

- R Hannia greenwayi Greenway's Grunter Australia
- V Hephaestus adamsoni Adamson's Grunter Papua New Guinea
- R Hephaestus epirrhinos Long-Nose Sooty Grunter Australia
- I Hephaestus obtusifrons
  Striped Grunter
  Indonesia: Irian Jaya; Papua New Guinea
- R Hephaestus trimaculatus Threespot Grunter Papua New Guinea
- R Leiopotherapon aheneus Fortescus Grunter Australia
- R Leiopotherapon macrolepis
  Large-Scale Grunter
  Australia
- K Pingalla gilberti Gilberts Grunter Australia

- R Pingalla midgleyi Midgley's Grunter Australia
- K Scortum hilli Leathery Grunter Australia
- R Scortum parviceps
  Small-Headed Grunter
  Australia
- K Scortum sp.
  Angalarri Grunter
  Australia
- K Syncomistes kimberleyensis Kimberley Grunter Australia
- R Syncomistes rastellus Drysdale Grunter Australia
- R Varia jamoerensis Jamur Lake Grunter Indonesia: Irian Jaya

#### Family KHULIIDAE

K Kuhlia marginata Spotted Flagtail Australia

#### Family CENTRARCHIDAE

- R Ambioplites cavifrons
  Roanoke Bass
  USA
- R Micropterus notius Suwannee Bass USA
- R Micropterus treculi Guadalupe Bass USA

#### Family ELASSOMATIDAE

- R Elassoma boehlkei Carolina Pygmy Sunfish USA
- R Elassoma okatie
  Bluebarred Pygmy Sunfish
  USA
- V Elassoma sp. Spring Pygmy Sunfish USA

#### Family PERCIDAE

- R Ammocrypta asprella Crystal Darter USA
- V Ammocrypta pellucida Eastern Sand Darter Canada; USA
- R Etheostoma acuticeps Sharphead Darter USA
- V Etheostoma aquali Coppercheek Darter USA
- E Etheostoma australe
  Dardo de Conchos
  Mexico
- V Etheostoma boschungi Slackwater Darter USA
- R Etheostoma cinereum Ashy Darter USA
- R Etheostoma cragini Arkansas Darter USA
- V Etheostoma ditrema Coldwater Darter USA
- E Etheostoma fonticola
  Fountain Darter
  USA
- R Etheostoma grahami Rio Grande Darter Mexico: USA
- R Etheostoma kanawhae Kanawha Darter USA
- R Etheostoma luteovinctum Redband Darter USA
- R Etheostoma maculatum Spotted Darter USA
- R Etheostoma mariae Pinewoods Darter USA

- V Etheostoma moorei Yellowcheek Darter USA
- V Etheostoma nianguae Niangua Darter USA
- E Etheostoma nuchale
  Watercress Darter
  USA
- V Etheostoma okaloosae Okaloosa Darter USA
- R Etheostoma osburni Finescale Saddled Darter USA
- V Etheostoma pallididorsum Paleback Darter USA
- V Etheostoma pottsi Mexican Darter Mexico
- V Etheostoma rubrum Bayou Darter USA
- R Etheostoma striatulum Striated Darter USA
- V Etheostoma trisella Trispot Darter USA
- V Etheostoma tuscumbia Tuscumbia Darter USA
- V Etheostoma wapiti Boulder Darter USA
- E Etheostoma sp.
  Dardo de Cuatro Cienegas
  Mexico
- R Perca schrenki
  Balkhash Perch
  China?; Kazakhstan; Kirgizia?
- E Percina antesella
  Amber Darter
  USA
- V Percina aurolineata Goldline Darter USA

- R Percina burtoni
  Blotchside Logperch
  USA
- R Percina cymatotaenia Bluestripe Darter USA
- E Percina jenkinsi Conasauga Logperch USA
- V Percina lenticula Freckled Darter USA
- V Percina macrocephala Longhead Darter USA
- V Percina nasuta Longnose Darter USA
- V Percina pantherina Leopard Darter USA
- E Percina rex
  Roanoke Logperch
  USA
- V Percina tanasi Snail Darter USA
- R Percina uranidea Stargazing Darter USA
- E Romanichthys valsanicola Asprete Romania
- E Zingel asper
  Asper
  France
- V Zingel streber Streber

Austria; Bulgaria; Czech Republic; Germany; Hungary; Moldavia?; Slovakia; Switzerland; Ukraine; Yugoslavia

#### Family SCIAENIDAE

E Totoaba macdonaldi
Totoaba
Mexico

#### Family TOXOTIDAE

K Toxotes oligolepis Large-Scale Archerfish Australia

#### Family CICHLIDAE

- R Chetia brevis
  Orange-fringed Largemouth
  South Africa
- E Cichlasoma bartoni Mojarra Caracolera Mexico
- E Cichlasoma labridens
  Mojarra
  Mexico
- E Cichlasoma minckleyi
   Mojarra Caracolera de Cuatro Cienegas
   Mexico
- R Cichlasoma pantostictum Mojarra Mexico
- R Cichlasoma steindachneri Mojarra Mexico
- E Cichlasoma sp.

  Mojarra Caracolera de Media Luna

  Mexico
- V Konia dikume
  Dikume
  Cameroon: Lake Barombi Mbo
- V Konia eisentrauti Konye Cameroon: Lake Barombi Mbo
- V Myaka myaka Myaka myaka Cameroon: Lake Barombi Mbo
- R Oxylapia polli

  Madagascar: Marolambo Rapids, Nosivolo
  River
- V Paratilapia polleni Marakely Madagascar
- K Paretroplus dami Damba Madagascar
- K Paretroplus kieneri Kotsovato Madagascar

K Paretroplus maculatus Masovoatoaka Madagascar

K Paretroplus petiti Kotso Madagascar

E Ptychochromoides betsileanus Trondo Mainty Madagascar

R Ptychochromoides sp. Madagascar: Nosivolo River

V Pungu maclareni Pungu Cameroon: Lake Barombi Mbo

V Sarotherodon caroli Fissi Cameroon: Lake Barombi Mbo

V Sarotherodon linnellii Unga Cameroon: Lake Barombi Mbo

V Sarotherodon lohbergeri Leka Keppe Cameroon: Lake Barombi Mbo

V Sarotherodon steinbachi Kululu Cameroon; Lake Barombi Mbo

R Serranochromis meridianus Lowveld Largemouth South Africa

V Stomatepia mariae Nsess Cameroon: Lake Barombi Mbo

V Stomatepia mongo Mongo Cameroon: Lake Barombi Mbo

V Stomatepia pindu Pindu Cameroon: Lake Barombi Mbo

R Tilapia bakossiorum

Cameroon: Lake Bermin

R Tilapia bemini Cameroon: Lake Bermin

R Tilapia bythobathes
Cameroon: Lake Bermin

R Tilapia flava
Cameroon: Lake Bermin

E *Tilapia guinasana* Otjikoto Tilapia Namibia

R Tilapia gutturosa Cameroon: Lake Bermin

R Tilapia imbriferna Cameroon: Lake Bermin

R Tilapia snyderae Cameroon: Lake Bermin

R Tilapia spongotroktis Cameroon: Lake Bermin

R Tilapia thysi Cameroon: Lake Bermin

Family MUGILIDAE

R Liza luciae
Saint Lucia Mullet
South Africa

R Myxus capensis
Freshwater Mullet
South Africa

Family CLINIDAE

R Clinus spatulatus
Bot River Klipfish
South Africa

Family ELEOTRIDAE

R Bostrichthys aruensis
Island Gudgeon
Indonesia: Aru Islands

I Bostrichthys zonatus
Barred Gudgeon
Indonesia: Irian Jaya

R Eleotris sandwicensis
Oopu
USA

R Gobiomorphus alpinus
Tarndale Bully
New Zealand

R Hypseleotris aurea Golden Gudgeon Australia

R Hypseleotris dayi Golden Sleeper South Africa

K Hypseleotris ejuncida Slender Gudgeon Australia

- K Hypseleotris kimberleyensis
   Barnett River Gudgeon
   Australia
- K Hypseleotris regalis
  Prince Regent Gudgeon
  Australia
- R Kimberleyeleotris hutchinsi Mitchell Gudgeon Australia
- R Kimberleyeleotris notata Drysdale Gudgeon Australia
- R Milyeringa veritas Blind Gudgeon Australia
- R Mogurnda adspersa
  Purple Spotted Gudgeon
  Australia
- V Mogurnda furva Black Mogurnda Papua New Guinea
- R Mogurnda lineata Kokoda Mogurnda Papua New Guinea
- R Mogurnda orientalis
  Eastern Mogurnda
  Papua New Guinea
- V Mogurnda spilota Blotched Mogurnda Papua New Guinea
- V Mogurnda variegata
  Variegated Mogurnda
  Papua New Guinea
- V Mogurnda vitta Striped Mogurnda Papua New Guinea
- R Mogurnda sp. 1
  False-Spotted Gudgeon
  Australia
- R Mogurnda sp. 2 Flinders Ranges Gudgeon Australia
- R Mogurnda sp. 3 Karamui Gudgeon Papua New Guinea
- R Mogurnda sp. 4 Wau Gudgeon Papua New Guinea

- R Mogurnda sp. 5 Highlands Gudgeon Papua New Guinea
- R Mogurnda sp. 6 Malas Gudgeon Papua New Guinea
- R Oxyeleotris wisselensis Paniai Gudgeon Indonesia: Irian Jaya
- V Ratsirakia legendrei Madagascar

#### Family GOBIIDAE

- R Awaous stamineus Oopu Nakea USA
- E Chlamydogobius sp. 1 Elizabeth Springs Goby Australia
- K Chlamydogobius sp. 2 Edgbaston Goby Australia
- R Chlamydogobius sp. 3
  Dalhousie Goby
  Australia
- I Croilia mossambica
  Burrowing Goby
  South Africa
- R Economidichthys trichonis Nanogoviós Greece
- R Eucyclogobius newberryi Tidewater Goby USA
- R Glossogobius hoesei Hoese's Goby Indonesia: Irian Jaya
- V Glossogobius intermedius Indonesia; Sulawesi
- V Glossogobius matanensis Indonesia: Sulawesi
- R Glossogobius sp. 1 Mountain Goby Papua New Guinea
- I Glossogobius sp. 2 Irian Goby Indonesia; Irian Jaya

- V Glossogobius sp. 3
  Robert's Goby
  Indonesia: Irian Jaya; Papua New Guinea
- V Glossogobius sp. 4 Bluntsnout Goby Papua New Guinea
- R Glossogobius sp. 5 Sentani Goby Indonesia: Irian Jaya
- R Glossogobius sp. 6
  Fly River Goby
  Indonesia: Irian Jaya; Papua New Guinea
- V Glossogobius sp. 7 Kutubu Goby Papua New Guinea
- R Glossogobius sp. 8
  Bighead Goby
  Papua New Guinea
- R Glossogobius sp. 9 Ramu Goby Papua New Guinea
- R Glossogobius sp. 10 Mulgrave Goby Australia
- I Gobius tigerellus Tiger Goby Indonesia: Irian Jaya
- I Knipowitschia goerneri Greece
- V Knipowitschia milleri Greece
- R Knipowitschia punctatissima
  Greece
- V Knipowitschia thessala Thessalogovinós Greece
- V Loentipes concolor Oopu Alamoo USA
- V Mistichthys luzonensis Sinarapan Philippines
- V Mugilogobius latifrons Indonesia: Sulawesi
- V Mugilogobius sp. Indonesia: Sulawesi
- V Padogobius nigricans Greece

- I Pandaka pygmaea
  Dwarf Pygmy Goby
  Philippines: Malabon River
- I Pseudogobiopsis sp. Red-spotted Goby Papua New Guinea
- R Redigobius dewaali
  Checked Goby
  Mozambique; South Africa
- R Schismatogobius deraniyagalai Redneck Goby Sri Lanka
- R Sicydium stimpsoni Oopu Nopili USA
- R Sicyopterus halei Red-tailed Goby Sri Lanka
- R Sicyopus jonklaasi Lipstick Goby Sri Lanka
- R Silhouettea sibayi Sibayi Goby South Africa
- V Stupidogobius flavipinnis
   Indonesia: Sulawesi (Malili Lakes)
- R Taenioides jacksoni
  Bearded Goby
  South Africa
- V Tamanka sarasinorum Sarasin's Goby Indonesia: Sulawesi (Malili Lakes)
- E Weberogobius amadi
  Poso Bungu
  Indonesia: Sulawesi (Lake Poso)

#### Family ANABANTIDAE

E Sandelia bainsii
Eastern Province Rocky
South Africa

#### Family BELONTIIDAE

- R Belontia signata Combtail Sri Lanka
- V Malpulutta kretseri Ornate Paradisefish Sri Lanka

Class SARCOPTERYGII
Order COELACANTHIFORMES

Family LATIMERIIDAE

V Latimeria chalumnae Coelacanth Comoros; South Africa

## Phylum CNIDARIA

Class ANTHOZOA

Order GORGONACEA

Family PLEXAURIDAE

K Eunicella verrucosa
 Broad Sea Fan
 (Mediterranean Sea; N.E. Atlantic Ocean)

#### Order ACTINIARIA

#### Family EDWARDSIIDAE

E Edwardsia ivelli Ivell's Sea Anemone United Kingdom

V Nematostella vectensis Starlet Sea Anemone Canada; United Kingdom; USA

## Phylum PLATYHELMINTHES

#### Class TURBELLARIA

#### Order TRICLADIDA

#### Family KENKIIDAE

R Kenkia rhynchida Malheur Cave Planarian USA

E Sphalloplana holsingeri Holsinger's Groundwater Planarian USA

E Sphalloplana subtilis
Biggers' Groundwater Planarian
USA

## Phylum NEMERTEA

#### Class ENOPLA

#### Order HOPLONEMERTEA

E Antiponemertes allisonae New Zealand

R Argonemertes hillii Australia

R Argonemertes stocki
Australia

R Geonemertes rodericana Mauritius: Rodrigues R Katechonemertes nightingaleensis Saint Helena: Tristan da Cunha

E Pantinonemertes agricola Bermuda

## Phylum MOLLUSCA

#### Class GASTROPODA

#### Order ARCHAEOGASTROPODA

#### Family NERITIDAE

I Neritilia hawaiiensis Anchialine Pool Snail USA: Hawaiian Islands

V Theodoxus transversalis
 Austria; Bulgaria; Germany; Hungary;
 Moldova; Romania; Slovakia; Ukraine;
 Yugoslavia?

#### Family HYDROCENIDAE

V Georissa biangulata Guam

V Georissa elegans Guam

V Georissa laevigata Guam

R Georissa laseroni Australia: New South Wales

V Georissa rufula Federated States of Micronesia: Pohnpei

V Monterissa gowerensis
Australia: Lord Howe Island

#### Family HELICINIDAE

V Ogasawarana arata Japan: Ogasawara

V Ogasawarana capsula Japan: Ogasawara

V Ogasawarana comes Japan: Ogasawara

R Ogasawarana discrepans Japan: Ogasawara

R Ogasawarana microtheca Japan: Ogasawara

R Ogasawarana nitida Japan: Ogasawara

R Ogasawarana ogasawarana Japan: Ogasawara

Palau: Koror

Diplommatina pyramis V Ogasawarana optima Palau: Peleliu Japan: Ogasawara V Sturanyella carolinarum Diplommatina ringens Federated States of Micronesia: Pohnpei Palau: Peleliu Hungerfordia pelewensis Sturanyella epicharis Palau: Koror Federated States of Micronesia: Chuuk Islands (Lukunor) Palaina albata Palau: Koror Order MESOGASTROPODA V Palaina dimorpha Family CYCLOPHORIDAE Palau: Peleliu V Craspedoma costata Palaina doheni Spain: Canary Islands (El Hierro, La Gomera) Palau: Palau Craspedoma hespericum Palaina doliolum Portugal: Azores Federated States of Micronesia: Pohnpei Craspedoma lyonnetianum R Palaina kubaryi Portugal: Madeira Federated States of Micronesia: Pohnpei R Ditropis whitei Palaina moussoni Australia: Queensland (Islands off Cape York Palau: Ngcheangel Peninsula) V Palaina ovatula Family POTERIIDAE Federated States of Micronesia: Pohnpei V Kondoraphe kiyokoae Palaina patula Federated States of Micronesia: Chuuk Islands Palau: Koror, Peleliu Ostodes brazieri Federated States of Micronesia; Chuuk Islands V Palaina platycheilus Palau: Koror Paramiella incisa Federated States of Micronesia: Chunk Islands V Palaina pupa Palau: Peleliu Paramiella kondoi Federated States of Micronesia: Chunk Islands Palaina pusilla Palau: Peleliu (Moen, Fefan) V Palaina rubella Family DIPLOMMATINIDAE Palau: Koror V Diplommatina alata V Palau: Ngemelis Palaina scalarina Federated States of Micronesia: Pohnpei Diplommatina aurea Palau: Koror Palaina strigata Palau: Peleliu Diplommatinaa crassilabris Palau: Koror Palaina striolata Palau V Diplommatina gibboni Palau: Koror Palaina taeniolata Guam V Diplommatina hyalina Guam V Palaina wilsoni Palau Diplommatina inflatula Palau: Peleliu Palaina xiphidium Federated States of Micronesia: Pohnpei Diplommatina lamellata Palau: Peleliu Pseudopalaina polymorpha Palau: Peleliu V Diplommatina lutea

#### Family PUPINIDAE

R Hedleya coxeni (Signepupina coxeni) Australia: Queensland

R Hedleya macleayi
Australia: Queensland

R Hedleya pfeifferi (Signepupina pfeifferi) Australia: Queensland

V Pupina brenchleyi
Federated States of Micronesia: Chuuk Islands
(Lukunor)

V Pupina complanata
Federated States of Micronesia: Kosrae,
Pohnpei; Marshall Islands: Jaluit, Ebon

V Pupina difficilis Palau

R Pupina splendens (Suavocallia splendens) Australia: Oueensland (Lizard Islands)

#### Family LIAREIDAE

R Cytora hirsutissima New Zealand

#### Family VIVIPARIDAE

I Lioplax cyclostomaformis
Cylindrical Lioplax
USA

E Tulotoma magnifica
Tulotoma
USA

V Viviparus acerosus
Austria; Bulgaria; Germany; Hungary;
Romania: Slovakia

#### Family VALVATIDAE

E Valvata utahensis Utah Valvata USA

#### Family POMATIASIDAE

R Pomatias raricosta Spain: Canary Islands (Tenerife)

E Tropidophora articulata Mauritius: Rodrigues

R Tropidophora deburghiae Madagascar

#### Family ACICULIDAE

R Acicula norrisi Gibraltar

R Platyla foliniana France

R Renea gormonti France

R Renea paillona France

#### Family HYDROBIIDAE

V Alzoniella hartwigschuetti Austria

I Antrobia breweri USA

I Antrobia culveri
Tumbling Creek Cavesnail
USA

I Apachecoccus arizonae Bylas Springsnail USA

I Aphaostracon asthenes
Blue Spring Hydrobe
USA

I Aphaostracon monas Wekiwa Hydrobe USA

I Aphaostracon pycnum Dense Hydrobe USA

I Aphaostracon xynoelictus Fenney Spring Hydrobe USA

I Arganiella exilis
France

K Avenionia brevis
France; Belgium; Netherlands; Germany

V Beddomeia angulata Australia: Tasmania

V Beddomeia averni Australia: Tasmania

V Beddomeia bellii Australia: Tasmania

V Beddomeia bowryensis Australia: Tasmania

V Beddomeia briansmithi Australia: Tasmania

onaldi Fasmania
almonis Fasmania
asmanica Fasmania
o <i>psiae</i> Fasmania
rochiformis Fasmania
u <i>mida</i> Fasmania
urnerae Fasmania
vaterhousea Fasmania
vilmotensis Fasmania
riseae Fasmania
eehanensis Fasmania
austriana
fuchsi
komenskyi ublic
lacheineri
parreyssi
pupula
pyrenaica
styriaca
densis
varica
carinata
1

1 Bythinella carinulata France E Bythinella compressa Germany R Bythinella cylindrica Austria E Bythinella dunkeri Belgium; Germany I Bythinella pupoides France; Switzerland I Bythinella reyniesii Andorra; France Bythinella vesontiana Ι France Bythinella viridis Ι Belgium; France E Bythiospeum acicula Germany R Bythiospeum alpinum Switzerland 1 Bythiospeum articense France Ι Bythiospeum bressanum France E Bythiospeum cisterciensorum Austria Ι Bythiospeum diaphanum France, Switzerland E Bythiospeum elseri Austria Ι Bythiospeum garneri France E Bythiospeum geyeri Austria Bythiospeum noricum E Austria E Bythiospeum quenstedti Germany E Bythiospeum reisalpense Austria E Bythiospeum sandbergeri Germany Ι Cincinnatia helicogyra Crystal Siltsnail **USA** 

I Cincinnatia mica Ichetucknee Siltsnail **USA** I Cincinnatia monroensis Enterprise Siltsnail **USA** Ι Cincinnatia parva Pygmy Siltsnail **USA** Ι Cincinnatia ponderosa Ponderous Siltsnail USA I Cincinnatia vanhyningi Seminole Siltsnail USA Cincinnatia wekiwae Ī Wekiwa Siltsnail USA Ι Clappia cahabensis Cahaba Pebblesnail **USA** Coahuilix hubbsi Coahuilix de Hubbs Snail Mexico I Cochliopa texana Phantom Cavesnail **USA** Cochliopina milleri Miller's Snail Mexico Ĩ Coxiella striata Australia: Tasmania

- I Fluminicola avernalis Moapa Pebblesnail USA
- I Fluminicola columbiana
  Columbia Pebblesnail
  USA
- I Fluminicola merriami
  Pahranagat Pebblesnail
  USA
- V Fluvidona anodonta Australia: Queensland

ninutissima Lord Howe Island nusillior Lord Howe Island whiteleggei Lord Howe Island perroquini onia petiti onia mandri uminata
cord Howe Island chiteleggei cord Howe Island perroquini onia petiti onia mandri
ord Howe Island  perroquini  onia  petiti  onia  mandri
onia petiti onia mandri
onia mandri
uminata
rnarvonensis
lmani
reena
rrugata
gbastonensis
lo
igua
lata
swiseae
llida
dlerorum
walteri ail
954 **
lliptica
ubialis
arranzae e Carranza Snail

V	Mexipyrgus churinceanus Mexipyrgus de Churince Snail	I	Paladilhia pleurotoma France
v	Mexico  Mexipyrgus escobedae	I	Paladilhiopis bourguignati France
	Mexipyrgus de Escobeda Snail Mexico	V	Paludinella conica Guam; Northern Marianas: Saipan
V	Mexipyrgus lugoi Mexipyrgus de Lugo Snail Mexico	V	Paludinella minima Japan: Ogasawara
V	Mexipyrgus mojarralis Mexipyrgus de West El Mojarral Snail	V	Paludinella semperi Marshall Islands: Jaluit; Palau
V	Mexico  Mexipyrgus multilineatus	V	Paludinella vitrea Palau: Peleliu
**	Mexipyrgus de East El Mojarral Snail Mexico	V	Paludiscala caramba Paludiscala de Oro Snail Mexico
V	Mexithauma quadripaludium  Mexithauma de Cienegas Snail  Mexico	V	Phrantela annamurrayae Australia: Tasmania
I	Moitessieria juvenisanguis France	V	Phrantela conica Australia: Tasmania
I	Moitessieria lineolata France	V	Phrantela kutikina Australia: Tasmania
I	Moitessieria locardi France	V	Phrantela marginata Australia: Tasmania
I	Moitessieria puteana France	V	Phrantela pupiformis Australia: Tasmania
Ι	Moitessieria rayi France	V	Phrantela richardsoni Australia: Tasmania
I	Moitessieria rolandiana France	V	Phrantela umbilicata Australia: Tasmania
I	Moitessieria simoniana France; Spain	I	Phreatodrobia imatata Mimic Cavesnail
V	Nanocochlea monticola Australia: Tasmania	I	USA  Plagigeyeria conilis
V	Nanocochlea pupoides Australia: Tasmania	v	France  Potamopyrgus oscitans  Australia: Lord Howe Island
V	'Nanocochlea' parva Australia: Tasmania	I	Pseudamnicola anteisensis
V	Neohoratia minuta Switzerland	I	France  Pseudamnicola klemmi
V	Nymphophilus minckleyi Nymphophilus de Minckley Snail Mexico	E	France  Pseudamnicola melitensis  Malta
I	Palacanthilhiopsis vervierii France	v	Pseudotricula eberhardi Australia: Tasmania
R	Paladilhia hungarica		

Hungary

- I Pyrgulopsis agarhecta
  Ocmulgee Marstonia
  USA
- I Pyrgulopsis bacchus Grand Wash Springsnail USA
- E Pyrgulopsis bruneauensis
  Bruneau Hot Springsnail
  USA
- I Pyrgulopsis castor
  Beaver Pond Marstonia
  USA
- I Pyrgulopsis chupaderae (Fontelicella chupaderae) Chupadera Springsnail USA
- I Pyrgulopsis conicus Kingman Springsnail
- I Pyrgulopsis cristalis
  Crystal Spring Springsnail
  USA
- I Pyrgulopsis davisi (Fontelicella davisi) Davis County Springsnail USA
- I Pyrgulopsis erythopoma Ash Meadows Pebblesnail
- I Pyrgulopsis fairbanksensis Fairbanks Springsnail USA
- I Pyrgulopsis gilae (Fontelicella gilae) Gila Springsnail USA
- I Pyrgulopsis glandulosus Verde Rim Springsnail USA
- E Pyrgulopsis idahoensis (Fontelicella idahoensis) Idaho Springsnail USA
- I Pyrgulopsis isolatus
  Elongate-gland Springsnail
  USA

- I Pyrgulopsis metcalfi (Fontelicella metcalfi) Presidio County Springsnail USA
- I Pyrgulopsis micrococcus
  Oasis Valley Springsnail
  USA
- I Pyrgulopsis montezumensis Montezuma Well Springsnail USA
- I Pyrgulopsis morrisoni
  Page Springsnail
  USA
- I Pyrgulopsis nanus
  Dlstal-gland Springsnail
  USA
- E Pyrgulopsis neomexicana Socorro Snail USA
- I Pyrgulopsis ogmoraphe Royal Marstonia USA
- I Pyrgulopsis olivacea
  Olive Marstonia
  USA
- I Pyrgulopsis ozarkensis Ozark Pyrg USA
- I Pyrgulopsis pachyta Armored Marstonia USA
- I Pyrgulopsis pecosensis (Pyrgulopsis fontelicella) Pecos Springsnail USA
- I Pyrgulopsis pisteri Median-gland Nevada Springsnail USA
- I Pyrgulopsis robusta
  Jackson Lake Springsnail
  USA
- I Pyrgulopsis roswellensis (Fontelicella roswellensis) Roswell Springsnail USA
- I Pyrgulopsis simplex
  Fossil Springsnail
  USA

- I Pyrgulopsis solus Brown Springsnail USA
- I Pyrgulopsis thermalis
  (Fontelicella thermalis)
  New Mexico Hotspring Snail
  USA
- I Pyrgulopsis thompsoni Huachuca Springsnail USA
- I Pyrgulopsis trivialis
  (Fontelicella trivialis)
  Three Forks Springsnail
  USA
- E Sadleriana pannonica Hungary; Slovakia
- I Somatogyrus amnicoloides Oachita Pebblesnail USA
- I Somatogyrus aureus Goldend Pebblesnail USA
- I Somatogyrus biangulatus Angular Pebblesnail USA
- I Somatogyrus constrictus Knotty Pebblesnail USA
- I Somatogyrus coosaensis Coosa Pebblesnail USA
- I Somatogyrus crassilabris
  Thick-lipped Pebblesnail
  USA
- I Somatogyrsus crassus Stocky Pebblesnail USA
- I Somatogyrus currierianus Tennessee Pebblesnail USA
- I Somatogyrus deciphens Hidden Pebblesnail USA
- I Somatogyrus excavatus Ovate Pebblesnail USA
- I Somatogyrus hendersoni Fluted Pebblesnail USA

- I Somatogyrus hinkleyi Granite Pebblesnail USA
- I Somatogyrus humerosus Atlas Pebblesnail USA
- I Somatogyrus nanus Dwarf Pebblesnail USA
- I Somatogyrus obtusus Moom Pebblesnail USA
- I Somatogyrus parvulus Sparrow Pebblesnail USA
- I Somatogyrus pilsbryanus Tallapoosa Pebblesnail USA
- I Somatogyrus pygmaeus Pygmy Pebblesnail USA
- I Somatogyrus quadrulus Quadrate Pebblesnail USA
- I Somatogyrus sergenti Mud Pebblesnail USA
- I Somatogyrus strengi Rolling Pebblesnail USA
- I Somatogyrus tenax Savannah Pebblesnail USA
- I Somatogyrus tennesseensis Opaque Pebblesnail USA
- I Somatogyrus wheeleri Channeled Pebblesnail USA
- I Stiobia nana Sculpin Snail USA
- V Trochidrobia punicea Australia
- V Trochidrobia smithi Australia
- E Trochidrobia inflata Australia

- V Trochidrobia minuta Australia
- I Tryonia adamantina
  Diamond Y Springsnail
  USA
- E Tryonia alamosae Alamosa Springsnail USA
- I Tryonia angulata
  Sportingoods Tryonia
  USA
- I Tryonia brunei
  Brune's Tryonia
  USA
- I Tryonia cheatumi
  Phantom Tryonia
  USA
- I Tryonia clathrata Grated Tryonia USA
- I Tryonia elata
  Point of Rocks Tryonia
  USA
- I Tryonia ericae Minute Tryonia USA
- I Tryonia gilae Gila Tryonia USA
- I Tryonia imitator Mimic Tryonia USA
- I Tryonia kosteri Koster's Tryonia USA
- I Tryonia quitobaquitae
  Quitabaquito Tryonia
  USA
- I Tryonia stocktonensis
  Gonzales Spring Tryonia
  USA
- I Tryonia variegata
  Amargossa Tryonia
  USA
- V Victodrobia burni Australia: Victoria
- V Victodrobia elongata Australia: Victoria

- V Victodrobia millerae Australia: Victoria
- V Victodrobia victoriensis Australia: Victoria
- I Yaquicoccus bernardinus San Bernadino Springsnail USA

# Family TRUNCATELLIDAE

- V Taheitia alata Guam
- V Taheitia lamellicosta Guam
- V Taheitia mariannarum Guam
- V Taheitia parvula Guam
- V Truncatella guerinii Japan: Ogasawara

#### Family ASSIMINEIDAE

- I Assiminea infirma
  Badwater Snail
  USA
- V Assiminea palauensis Palau
- I Assiminea pecos Pecos Assiminea USA
- E Austroassiminea letha Australia
- V Heteropoma fulvum Guam
- V Heteropoma glabratum Guam
- V Heteropoma pyramis Guam
- V Heteropoma quadrasi Guam
- V Heteropoma tuberculatum Guam
- V Heteropoma turritum Guam
- V Kubaryia pilikia Palau: Koror
- E Omphalotropis albocarinata Australia: Norfolk Island

V	Omphalotropis carolinensis Federated States of Micronesia: Chuuk Islands	V	Omphalotropis submaritima Guam
v	(Lukunor)  Omphalotropis cheynei	V	Omphalotropis suturalis Guam
v	Palau Omphalotropis cookei	E	Omphalotropis suteri Australia: Norfolk Island
v	Guam; Northern Marianas: Saipan  Omphalotropis elegans Guam	V	Omphalotropis tumidula Federated States of Micronesia: Pohnpei
v	Omphalotropis elongatula Guam	V	Ponapella pihapiha Federated States of Micronesia: Pohnpei
v	Omphalotropis erosa Guam	V	Quadrasiella clathrata Guam
v	Omphalotropis exquisita Australia: Lord Howe Island	V	Quadrasiella mucronata Guam
v	Omphalotropis fragilis	V	Thaanumella angulosa Federated States of Micronesia: Pohnpei
	Federated States of Micronesia: Kosrae, Pohnpei	V I	Thaanumella cookei Federated States of Micronesia: Pohnpei
V	Omphalotropis gracilis Guam	V	Wrayanna soluta Federated States of Micronesia: Pohnpei
V	Omphalotropis guamensis Guam	Fam	ily MELANOPSIDAE
V	Omphalotropis howeinsulae Australia: Lord Howe Island	V	Fagotia esperi Austria; Belarus; Hungary; Moldova; Slovakia; Ukraine
V	Omphalotropis innesi Australia: Lord Howe Island	Fam	nily PLEUROCERIDAE
V	Omphalotropis laevigata Guam	I	Anculosa ampla (Leptoxis ampla) Round Rocksnail
V	Omphalotropis laticosta Guam		USA
V	Omphalotropis latilabris Guam	I	Anculosa compacta (Leptoxis compacta) Oblong Rocksnail
V	Omphalotropis mutica Palau	I	USA Anculopsis crassa
V	Omphalotropis ochthogyra Guam		(Leptoxis crassa) Boulder Snail USA
V	Omphalotropis picta Guam	I	Anculosa formosa (Leptoxis formosa)
V	Omphalotropis pilosa Guam		Maiden Rocksnail USA
V	Omphalotropis quadrasi Guam	I	Anculosa melanoidus (Leptoxis melanoidus)
V	Omphalotropis semicostata Guam		Black Mudalia USA
v	Omphalotropis striatipila		

Palau

- I Anculosa minor (Leptoxis minor) Knob Mudalia USA
- I Anculosa picta (Leptoxis picta) Spotted Rocksnail USA
- I Anculosa plicata (Leptoxis plicata) Plicate Rocksnail USA
- I Anculosa taeniata (Leptoxis taeniata) Painted Rocksnail USA
- I Anculosa virgata (Leptoxis virgata) Smooth Rocksnail USA
- I Goniobasis albanyensis (Elimia albanyensis) Black-crest Elimia USA
- I Goniobasis ampla (Elimia ampla) Ample Elimia USA
- I Goniobasis annettae (Elimia annettae) Lily Shoals Elimia USA
- I Goniobasis annulifera (Elimia annulifera) USA
- I Goniobasis bellula (Elimia bellula) Walnut Elimia USA
- I Goniobasis boykiniana (Elimia boykiniana) Flaxen Elimia USA
- I Goniobasis brevis (Elimia brevis) Short-spired Elimia USA

- I Goniobasis cahawbensis (Elimia cahawbensis) Cahaba Elimia USA
- I Goniobasis capillaris (Elimia capillaris) Spindle Elimia USA
- I Goniobasis crenatella (Elimia crenatella) Lacy Elimia USA
- I Goniobasis fascinans (Elimia fascinans) Banded Elimia USA
- I Goniobasis gerhardti (Elimia gerhardti) Coldwater Elimia USA
- I Goniobasis haysiana (Elimia haysiana) Silt Elimia USA
- I Goniobasis hydei (Elimia hydei) Gladiator Elimia USA
- I Goniobasis interrupta (Elimia interrupta) Knotty Elimia USA
- I Goniobasis interveniens (Elimia interveniens) Slowwater Elimia USA
- I Goniobasis nassula (Elimia nassula) Round-rib Elimia USA
- I Goniobasis olivula (Elimia olivula) Caper Elimia USA
- I Goniobasis showalteri (Elimia showalteri) Compact Elimia USA

- I Goniobasis vanuxemiana (Elimia vanuxemiana) Cobble Elimia USA
- I Goniobasis variata (Elimia variata) Squat Elimia USA
- I Io fluvialis
  Spiny River Snail
  USA
- I Lithasia armigera Armored Rocksnail USA
- I Lithasia curta Knobby Rocksnail USA
- I Lithasia duttoniana Helmet Rocksnail USA
- I Lithasia geniculata
  Ornate Rocksnail
  USA
- E Lithasia jayana Rugose Rocksnail USA
- E Lithasia lima Warty Rocksnail USA
- E Lithasia salebrosa Muddy Rocksnail USA
- I Lithasia verrucosa Varicose Rocksnail USA
- I Pleurocera alveare
  Rugged Hornsnail
  USA
- I Pleurocera annulifera Ringed Homsnail USA
- I Pleurocera brumbyi Spiral Hornsnail USA
- I Pleurocera corpulenta Corpulent Hornsnail USA

- I Pleurocera curta Shortspire Hornsnail USA
- I Pleurocera foremani Rough Hornsnail USA
- I Pleurocera posteri
  Broken Hornsnail
  USA
- I Pleurocera pyrenella Skirted Hornsnail USA
- I Pleurocera showalteri Upland Hornsnail USA
- I Pleurocera walkeri Telescope Hornsnail USA

# Order BASOMMATOPHORA

#### Family ACROLOXIDAE

I Acroloxus coloradensis Rocky Mountain Capshell USA

# Family LYMNAEIDAE

- E Erinna carinata Réunion
- Myxas glutinosa
   Austria; Belarus; Belgium; Czech Republic;
   Estonia; Finland; Germany; Kazakhstan;
   Latvia; Lithuania; Moldova; Netherlands;
   Norway; Poland; Russia; Sweden; Ukraine;
   United Kingdom
- I Stagnicola utahensis Thickshell Pondsnail USA

#### Family LANCIDAE

E Lanx sp.

Banbury Springs Limpet
USA

#### Family GLACIDORBIDAE

- V Glacidorbis occidentalis Australia
- I Glacidorbis pawpela Australia: Tasmania
- I Glacidorbis pedderi Australia: Tasmania

#### Family PHYSIDAE

- I Physa microstriata (Physella microstriata) Fish Lake Physa USA
- E Physa natricina Snake River Physa Snail USA
- I Physa spelunca
  (Physella spelunca)
  Cave Physa
  USA
- I Physa utahensis (Physella utahensis) Utah Physa USA
- I Physa zionis (Physella zionis) Wet Rock Physa USA

# Family PLANORBIDAE

- E Ancylastrum cumingianus
  Australian Freshwater Limpet
  Australia: Tasmania
- I Glyptophysa petiti New Caledonia
- I Helisoma jacksonense Jackson Lake Snail USA
- E Miratesta celebensis Indonesia: Sulawesi
- I Planorbella magnifica Magnificent Ramshom USA
- I Planorbella multivolvis Acorn Ramshorn USA

#### Family NEOPLANORBIDAE

- I Amphigyra alabamensis Shoal Sprite USA
- I Neoplanorbis carinatus USA
- I Neoplanorbis smithi
- I Neoplanorbis tantilus USA

I Neoplanorbis umbilicatus USA

# Family ANCYLIDAE

- I Ferrissia moneili Hood Ancylid USA
- I Rhodacmaea elatior Domed Ancylid USA
- I Rhodacmaea filosa Wicker Ancylid USA

# Order STYLOMMATOPHORA

#### Family ACHATINELLIDAE

- E Achatinella apexfulva
  USA: Hawaiian Islands (Oahu)
- E Achatinella bellula
  USA: Hawaiian Islands (Oahu)
- E Achatinella bulimoides

  USA: Hawaiian Islands (Oahu)
- E Achatinella byronii
  USA: Hawaiian Islands (Oahu)
- E Achatinella cestus
  USA: Hawaiian Islands (Oahu)
- E Achatinella concavospira
  USA: Hawaiian Islands (Oahu)
- E Achatinella curta
  USA: Hawaiian Islands (Oahu)
- E Achatinella decipiens
  USA: Hawaiian Islands (Oahu)
- E Achatinella fulgens
  USA: Hawaiian Islands (Oahu)
- E Achatinella fuscobasis
  USA: Hawaiian Islands (Oahu)
- E Achatinella leucorrhaphe USA: Hawaiian Islands (Oahu)
- E Achatinella lila
  USA: Hawaiian Islands (Oahu)
- E Achatinella lorata
  USA: Hawaiian Islands (Oahu)
- E Achatinella mustelina
  USA: Hawaiian Islands (Oahu)
- E Achatinella phaeozona
  USA: Hawaiian Islands (Oahu)

E	Achatinella pulcherrima USA: Hawaiian Islands (Oahu)	V	Lamellidea subcylindrica Guam; Northern Marianas: Rota
E	Achatinella pupukanioe USA: Hawaiian Islands (Oahu)	E	Partulina confusa USA: Hawaiian Islands
E	Achatinella sowerbyana USA: Hawaiian Islands (Oahu)	E	Partulina dolei USA: Hawaiian Islands (Maui)
E	Achatinella stewartii USA: Hawaiian Islands (Oahu)	E	Partulina dubia USA: Hawaiian Islands (Oahu)
E	Achatinella swiftii USA: Hawaiian Islands (Oahu)	E	Partulian dwightii USA: Hawaiian Islands (Molokai
E	Achatinella taeniolata USA: Hawaiian Islands (Oahu)	V	Partulina fusoidea USA: Hawaiian Islands (Maui)
E	Achatinella turgida USA: Hawaiian Islands (Oahu)	E	Partulina kaaeana USA: Hawaiian Islands (Maui)
E	Achatinella viridans USA: Hawaiian Islands (Oahu)	E	Partulina mighelsiana USA: Hawaiian Islands (Molokai
E	Achatinella vulpina USA: Hawaiian Islands (Oahu)	E	Partulina nattii USA: Hawaiian Islands (Maui)
Е	Auriculella ambusta USA: Hawaiian Islands (Oahu)	V	Partulina perdix USA: Hawaiian Islands (Maui)
E	Auriculella castanea USA: Hawaiian Islands (Oahu)	E	Partulina physa USA: Hawaiian Islands (Hawaii)
E	Auriculella crassula USA: Hawaiian Islands (Maui)	Е	Partulina porcellana USA: Hawaiian Islands (Maui)
E	Auriculella malleata USA: Hawaiian Islands (Oahu)	E	Partulina proxima USA: Hawaiian Islands (Molokai
E	Auriculella perpusilla USA: Hawaiian Islands (Oahu)	E	Partulina redfieldi USA: Hawaiian Islands (Molokai
E	Auriculella pulchra USA: Hawaiian Islands (Oahu)	E	Partulina semicarinata USA: Hawaiian Islands (Lanai)
Е	Auriculella tenella USA: Hawaiian Islands (Oahu)	E	Partulina splendida Splendid Partulina USA: Hawaiian Islands (Maui)
Ι	Elasmias kitaiwojimanum Japan: Ogasawara	E	Partulina talpina USA: Hawaiian Islands
V	Elasmias quadrasi Guam; Northern Marianas: Saipan, Rota	Е	Partulina tappaniana USA: Hawaiian Islands (Maui)
Е	Gulickia alexandri USA: Hawaiian Islands (Maui)	E	Partulina terebra USA: Hawaiian Islands (Maui)
I	Lamellidea biplicata Japan: Ogasawara	E	Partulina tessellata
V	Lamellidea microstoma Guam; Northern Marianas: Saipan, Rota	Е	USA: Hawaiian Islands (Molokai  Partulina ustulata
R	Lamellidea ogasawarana	r	USA: Hawaiian Islands (Maui)  Partulina variabilis
	Japan: Ogasawara	E	USA: Hawaiian Islands (Lanai)

E	Partulina virgulata USA: Hawaiian Islands (Maui)	Е	Tropidoptera heliciformis (Pterodiscus heliciformis)
E	Perdicella carinella USA: Hawaiian Islands (Maui)		USA: Hawaiian Islands (Oahu) Family PUPILLIDAE
Е	Perdicella helena USA: Hawaiian Islands (Molokai)	E	Lauria fanalensis Portugal: Madeira
Е	Perdicella kuhnsi USA: Hawaiian Islands (Maui)	E	Leiostyla callathiscus Portugal: Madeira
E	Perdicella ornata USA: Hawaiian Islands (Maui)	I	Leiostyla cheiligona Portugal: Madeira
V	Tornatellinops ponapensis Federated States of Micronesia: Pohnpei	E	Leiostyla concinna Portugal: Madeira
	ily COCHLICOPIDAE	E	Leiostyla corneocostata Portugal: Madeira
K	Cochlicopa nitens Armenia; Austria; Azerbaijan; Belarus; Bulgaria; Denmark; Estonia; Georgia;	E	Leiostyla degenerata Portugal: Madeira
	Germany; Hungary; Kazakhstan; Latvia; Lithuania; Moldova; Netherlands; Poland;	E	Leiostyla ferraria Portugal: Madeira
	Romania; Russia; Slovakia; Sweden; Switzerland; Turkmenistan; Ukraine; Yugoslavia	E	Leiostyla filicum Portugal: Madeira
Е	Cryptazeca monodonta France; Spain	V	Leiostyla fusca Portugal: Madeira
E	Cryptazeca subcylindrica France	I	Leiostyla laevigata Portugal: Madeira
I	Hypnophila remyi France: Corsica	R	Leiostyla laurinea Portugal: Madeira
Fam	ily AMASTRIDAE	E	Leiostyla monticola
E	Amastra cylindrica		Portugal: Madeira
Е	USA: Hawaiian Islands (Oahu)  Amastra micans	R	Leiostyla relevata Portugal: Madeira
Е	USA: Hawaiian Islands (Oahu)  Amastra rubens	R	Leiostyla vincta Portugal: Madeira
Е	USA: Hawaiian Islands (Oahu)  Amastra spirizona	E	Pupilla ficulnea Australia: Northern Territory
	USA: Hawaiian Islands (Oahu)	I	Pupilla pupula Réunion
Е	Armsia petasus USA: Hawaiian Islands (Oahu)	Fam	ily VALLONIIDAE
E	Laminella sanguinea USA: Hawaiian Islands (Oahu)	R	Acanthinula spinifera Spain: Canary Islands (La Palma)
I	Leptachatina lepida USA: Hawaiian Islands (Maui)	E	Spelaeodiscus tatricus Slovakia
E	Leptachatina sp. 1 USA: Hawaiian Islands (Oahu)	E	Vallonia allamanica Germany
E	Leptachatina sp. 2 USA: Hawaiian Islands		

V Vallonia declivis

Austria; France; Germany; Poland; Slovakia; Switzerland

K Vallonia enniensis

Austria; Belgium; Czech Republic; France; Germany; Greece; Hungary; Italy; Poland; Romania; Russia; Spain: including Balearic Islands, Canary Islands; Slovakia; Switzerland; Ukraine

E Vallonia suevica Germany

# Family VERTIGINIDAE

- K Cylindrovertilla kingi Australia: New South Wales
- I Gastrocopta boninensis Japan: Ogasawara
- R Gyliotrachela catherina Australia: Northern Territory
- V Nesopupa eapensis Palau
- V Nesopupa ponapica Federated States of Micronesia: Pohnpei
- V Nesopupa quadrasi Guam
- V Ptychalaea dedecora Japan: Ogasawara
- V Pupisoma orcula
  Federated States of Micronesia: Kosrae,
  Pohnpei
- I Sterkia clementina Insular Birddrop USA
- K Truncatellina atomus Spain: Canary Islands (Tenerife)
- I Vertigo alabamensis USA
- K Vertigo angustior

Armenia; Austria; Azerbaijan; Belarus; Belgium; Czech Republic; Denmark; Estonia; Finland; France; Georgia; Germany; Hungary; Ireland; Italy; Liechtenstein; Lithuania; Netherlands; Norway; Poland; Romania; Russia; Slovakia; Sweden; Switzerland; Ukraine; United Kingdom

V Vertigo genesii

Finland; Germany; Norway; Poland; Romania; Russia; Sweden; Switzerland; United Kingdom

V Vertigo geyerii

Austria; Czech Republic; Denmark; Finland; Germany; Ireland; Latvia; Lithuania; Norway; Poland; Slovakia; Sweden; Switzerland; United Kingdom

I Vertigo hebardi USA

#### Family ORCULIDAE

- V Orcula austriaca Austria
- R Orcula fuchsi Austria
- V Orcula pseudodolium Austria

#### Family CHONDRINIDAE

- I Solatopupa guidoni France: Corsica; Italy: Sardinia
- I Solatopupa psarolena France; Italy

#### Family BULIMINIDAE

- E Boninena callistoderma Japan: Ogasawara
- V Boninena hiraseana Japan: Ogasawara
- E Boninena ogasawarae Japan: Ogasawara
- R 'Napaeus' alabastrinus Portugal: Azores
- V Napaeus isletae Spain: Canary Islands (Gran Canaria)
- R Napaeus nanodes Spain: Canary Islands (Tenerife)
- I Napaeus pygmaeus Spain: Canary Islands (La Gomera)
- I Napaeus tagmichensis Spain: Canary Islands (La Gomera)
- I Napaeus tagulichensis Spain: Canary Islands (La Gomera)
- R Napaeus tarnerianus Spain: Canary Islands (Tenerife)

# Family CLAUSILIIDAE

- R Boettgeria obesiuscula Portugal: Madeira
- V Charpentieria dyodon Italy; Switzerland

R	Lamnifera pauli France; Spain	E	Samoana annectens French Polynesia: Huahine
Е	Lampedusa imitratix Malta	Е	Samoana attenuata French Polynesia: BoraBora, Moorea, Tahiti, Rajatea
Е	Lampedusa melitensis Malta	E	Samoana conica
R	Muticaria macrostoma Malta	E	American Samoa: Tutuila Samoana diaphana
Fam	nily PARTULIDAE		French Polynesia: Moorea
Е	Eua zebrina American Samoa: Tutuila	E	Samoana fragilis Guam
Е	Partula arguta French Polynesia: Huahine	Е	Samoana solitaria French Polynesia: Moorea
V	Partula calypso Palau: Peleliu	Е	Samoana thurstoni American Samoa: Ofu
E	Partula dentifera	Fam	ily ORTHALICIDAE
V	French Polynesia: Raiatea  Partula emersoni	V	Bothriembryon angasianus Australia: South Australia
Е	Federated States of Micronesia: Pohnpei  Partula faba	V	Bothriembryon brazieri Australia: Western Australia
	French Polynesia: Raiatea	V	Bothriembryon glauerti Australia: Western Australia
Е	Partula gibba Fat Guam Partula Guam; Northern Marianas: Rota	V	Bothriembryon irvineanus Australia: Western Australia
V	Partula guamensis Federated States of Micronesia: Pohnpei	E	Bothriembryon praecelcus Australia: Western Australia
Е	Partula hebe French Polynesia: Raiatea	V	Bothriembryon spenceri Australia: Northern Territory
Е	Partula labrusca French Polynesia: Raiatea	V	Bothriembryon tasmanicus Australia: Tasmania
Е	Partula langfordi Northern Marianas: Aguijan	Е	Bulimulus adelphus Ecuador: Galapagos Islands
V	Partula leucothoe Palau	E	Bulimulus akamatus Ecuador: Galapagos Islands
V	Partula martensiana Federated States of Micronesia: Kosrae	E	Bulimulus alethorhytidus Ecuador: Galapagos Islands
V	Partula radiolata Radiolate Partula	E	Bulimulus amastroides Ecuador: Galapagos Islands
	Guam	E	Bulimulus blombergi
Е	Partula rosea French Polynesia: Huahine		Ecuador: Galapagos Islands
V	Partula thetis Palau: Koror	E	Bulimulus calvus Ecuador: Galapagos Islands
E	Partula varia	E	Bulimulus cavagnaroi
	French Polynesia: Huahine		Ecuador: Galapagos Islands

Е	Bulimulus darwini Ecuador: Galapagos Islands	E Leuchocharis pancheri New Caledonia
Е	Bulimulus eos Ecuador: Galapagos Islands	V Orthalicus reses Stock Island Tree Snail USA
Е	Bulimulus eschariferus Ecuador: Galapagos Islands	V Placostylus ambagiosus
Е	Bulimulus hirsutus Ecuador: Galapagos Islands	Pupuharakeke, Flax Snail New Zealand
Е	Bulimulus jacobi Ecuador: Galapagos Islands	R Placostylus bollonsi Pupuharakeke New Zealand
Е	Bulimulus lycodus Ecuador: Galapagos Islands	V Placostylus hongii Pupuharakeke, Flax Snail
Е	Bulimulus nesioticus Ecuador: Galapagos Islands	New Zealand Family FERUSSACIIDAE
E	Bulimulus nux Ecuador: Galapagos Islands	R Amphorella melampoides Portugal: Madeira (Port Santo)
E	Bulimulus ochsneri Ecuador: Galapagos Islands	R Amphorella producta Portugal: Madeira
E	Bulimulus reibischi Ecuador: Galapagos Islands	I <i>Cecilioides connollyi</i> Gibraltar
E	Bulimulus rugiferus Ecuador: Galapagos Islands	K Cecilioides nyctelia Portugal: Madeira
Е	Bulimulus saeronius Ecuador: Galapagos Islands	V Cylichnidia ovuliformis Portugal: Madeira (Porto Santo)
Е	Bulimulus sculpturatus Ecuador: Galapagos Islands	R Sculptiferussacia clausiliaeformis Spain: Canary Islands (Fuerteventura)
Е	Bulimulus sp. 1 Ecuador: Galapagos Islands	Family COELIAXIDAE
Е	Bulimulus sp. 2 Ecuador: Galapagos Islands	I Pyrgina umbilicata São Tomé and Príncipe: São Tomé
E	Bulimulus sp. 3 Ecuador: Galapagos Islands	I Thomea newtoni São Tomé and Príncipe: São Tomé
Е	Bulimulus sp. 4	Family THYROPHORELLIDAE
Е	Ecuador: Galapagos Islands  Bulimulus sp. 5	I Thyrophorella thomensis São Tomé and Príncipe: São Tomé
2	Ecuador: Galapagos Islands	Family STREPTAXIDAE
Е	Bulimulus tanneri Ecuador: Galapagos Islands	V Gonospira bourguignati Réunion
Е	Bulimulus unifasciatus Ecuador: Galapagos Islands	V <i>Gonospira cylindrella</i> Réunion
Е	Bulimulus ustulatus Ecuador: Galapagos Islands	E <i>Gonospira deshayesi</i> Réunion
E	Bulimulus wolfi Ecuador: Galapagos Islands	E <i>Gonospira duponti</i> Mauritius

V	Gonospira funicula Réunion	V	Rhytida lamproides (Tasmaphena lamproides) Australia: Tasmania, Victoria
V	Gonospira turgidula		Austrana: Tasmana, Victoria
•	Réunion	R	Rhytida oconnori New Zealand
E	Gonospira uvula		
	Réunion	V	Victaphanta atramentaria Australia: Victoria
V	Gulella plantii		
	South Africa	V	Victaphanta compacta Australia: Victoria
E	Imperturbatia violescens		Austrana. Victoria
	Seychelles	Fam	ily ENDODONTIDAE
Fam	nily CARYODIDAE		
		V	Aaadonta angaurana
E	Anoglypta launcestonensis		Palau: Angaur
	Granulated Tasmanian Snail	V	Aaadonta constricta
	Australia: Tasmania		Palau
Fan	nily MEGOMPHICIDAE	V	Aaadonta fuscozonata
I	Ammonitella yatesii	•	Palau
1	Tight Coin		r alau
	USA	V	Aaadonta irregularis
	USA		Palau: Peleliu
Fam	nily RHYTIDIDAE	v	A aadanta biulooki
V	Delos oualanensis	v	Aaadonta kinlochi
٧			Palau: Angaur
	Federated States of Micronesia: Kosrae	V	Aaadonta pelewana
R	Ougapia spaldingi		Palau: Koror, Peleliu
	(Torresiropa spaldingi)	* 7	A
	Australia: Queensland (Cape York & Torres	V	Anguispira picta
	Strait Islands)		Painted Snake-coiled Forest Snail USA
R	Paryphanta busbyi	Е	Cookeconcha sp.
	Kauri Snail, Pupurangi	1.5	USA: Hawaiian Islands
	New Zealand		USA, Hawaiian Islands
V	Paryphanta gilliesi	E	Endodonta sp.
•	Gillies' Land Snail		USA: Hawaiian Islands
	New Zealand	I	Helicodiscus diadema
		1	USA
V	Paryphanta hochstetteri		OSA
	Hochstetter's Land Snail	I	Helicodiscus hexodon
	New Zealand		USA
V	Paryphanta lignaria	E	Hirasea acutissima
•	Woodformed Land Snail		Japan: Ogasawara
	New Zealand		Japan, Ogasawata
		E	Hirasea chichijimana
V	Paryphanta rossiana		Japan: Ogasawara
	Ross' Land Snail	Е	Hirasea diplomphalus
	New Zealand		Japan: Ogasawara
V	Paryphanta traversi	**	
	Travers' Land Snail	E	Hirasea insignis
	New Zealand		Japan: Ogasawara
R	Rhytida clarki	E	Hirasea operculina
K	(Wainuia clarki)		Japan: Ogasawara
	New Zealand	-	
	New Zealand	E	Thaumatodon hystricelloides Western Samoa: Upolu

I	Theskelomensor creon Australia: Queensland	V	Jokajdon tumidulus Federated States of Micronesia: Pohnpei
I	Theskelomensor lizardensis Australia: Queensland (Lizard Island)	V	Kubaryiellus kubaryi Federated States of Micronesia: Pohnpei
Fami	ily PUNCTIDAE	V	Ladronellum mariannarum Guam
V	Pasmaditta jungermanniae Australia: Tasmania	v	Letomola barrenensis Australia: Bass Strait islands
Fam	ily CHAROPIDAE		
V	Allocharopa erskinensis Australia: Victoria	R	Letomola contortus Australia: New South Wales
V	Allocharopa okeana Australia: Victoria	R	Ngairea murphyi Australia: New South Wales
v	Allocharopa tarravillensis Australia: Victoria	R	Oreokera cumulus Australia: Queensland
E	Bischoffena bischoffensis Australia: Tasmania	R	Oreokera nimbus Australia: Queensland
R	Coenocharopa yessabahensis Australia: New South Wales	V	Oreomava cannfluviatilus Australia: Victoria
E	Cralopa colliveri Australia: Victoria	V	Oreomava otwayensis Australia: Victoria
R	Cralopa kaputarensis Australia: New South Wales	V	Palikirus cosmetus Federated States of Micronesia: Pohnpei
R	Dipnelix pertricosa Australia: South Australia	V	Palikirus ponapicus Federated States of Micronesia: Pohnpei
E	Discocharopa mimosa Australia: Tasmania	V	Palline micramyla Federated States of Micronesia: Pohnpei
v	Dupucharopa millestriata Australia: Western Australia	V	Palline notera Palau
V	Geminoropa scindocataracta Australia: Victoria	V	Pernagera gatliffi Australia: Victoria
R	Hedleyoconcha ailaketoae Australia: Queensland	R	Pillomena aemula Australia: Northern Territory
Е	Helenoconcha relicta Saint Helena	V	Pilsbrycharopa tumida Australia: Western Australia
v	Himeroconcha fusca Guam	V	Pilula praetumida Réunion
v	Himeroconcha lamlanensis Guam	E	Planilaoma luckmanii Australia: Tasmania
v	Himeroconcha quadrasi Guam	R	Rhophodon kempseyensis Australia: New South Wales
v	Himeroconcha rotula Guam	V	Rhophodon problematica Australia: Victoria
v	Jokajdon callizonus Federated States of Micronesia: Pohnnei	v	Roimontis tolotomensis Federated States of Micronesia: Pohnpei

V

Radiocentrum avalonense

Boninosuccinea ogasawarae

Japan: Ogasawara

Catalina Mountain Snail

**USA** 

Family SUCCINEIDAE

T Boninosuccinea punctulispira V Russatus nigrescens Japan: Ogasawara Federated States of Micronesia: Pohnpei Catinella arenaria V Semperdon heptaptychius Belgium: France: Germany: Ireland: Guam Netherlands: Norway: Poland: Slovakia: Semperdon kororensis Sweden; Switzerland; United Kingdom Palau: Koror E Oxyloma kanabense V Semperdon rotanus Kanab Amber Snail Guam; Northern Marianas: Rota **USA** V Semperdon uncatus Succinea chittenangoensis Palau Chittenango Ovate Amber Snail Semperdon xyleborus **USA** Palan V Succinea philippinica R Setomedea nudicostata Palau Australia: Queensland  $\mathbf{E}$ Succinea piratarum V Sinployea kusaieana Guam Federated States of Micronesia: Kosrae E Succinea quadrasi V Trukcharopa trukana Guam Federated States of Micronesia: Chuuk Islands Succinea sanctaehelenae (Tol. Lukunor) Saint Helena Family DISCIDAE Family EUCONULIDAE R Discus engonata Palaua babelthuapi Spain: Canary Islands (Tenerife) Palau: Babeldaob E Discus macclintocki V Palaua margaritacea Iowa Pleistocene Snail Palau USA Palaua minor Discus marmorensis Palau Marbled Disc **USA** V Palaua ngarduaisi Palau: Babeldaob R Discus scutula Spain: Canary Islands (Tenerife) V Palaua straminea Palau: Angaur Family OREOHELICIDAE Palaua wilsoni Oreohelix jugalis V Palau Boulder Pile Mountain Snail USA E Caldwellia boryi Mauritius R Oreohelix vortex Whorled Mountain Snail V Caldwellia imperfecta **USA** Mauritius: Réunion Ι Oreohelix waltoni E Ctenophila caldwelli Lava Rock Mountain Snail Mauritius **USA** R Ctenophila salaziensis

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Ε

V

Réunion

Réunion

Réunion

Ctenophila setiliris

Ctenophila vorticella

v	Dendrotrochus ponapensis Federated States of Micronesia: Pohnpei	V	Plegma caelatura Réunion
I	Diastole matafaoi American Samoa: Tutuila	V	Plegma rodriguezensis Mauritius: Rodrigues
E	Hacrochlamys lineolatus Japan: Ogasawara	V	Ryssota pachystoma Federated States of Micronesia: Chuuk Islands
V	Harmogenanina argentea Réunion	V	Tengchiena euroxestus (Echonitor euroxestus)
Е	Harmogenanina detecta Réunion	E	Australia: South Australia  Thapsia snelli
E	Harmogenanina implicata Mauritius	E	Mauritius: Rodrigues  Trochochlamys ogasawarana
R	Helixarion australis (Helicarion australis)	Fam	Japan: Ogasawara ily TROCHOMORPHIDAE
R	Australia: New South Wales, Queensland  Helixarion leopardina (Helicarion leopardina)	V	Brazieria entomostoma Federated States of Micronesia: Chuuk Islands (Dublon)
R	Australia: New South Wales  Helixarion porrectus (Helicarion porrectus) Australia: New South Wales	V	Brazieria erasa Federated States of Micronesia: Chuuk Islands (Dublon)
E	Helixarion rubicundus (Helicarion rubicundus) Australia: Tasmania	V	Brazieria lutaria Federated States of Micronesia: Chuuk Islands (Dublon)
R	Helixarion semoni (Fastosarion semoni)	V	Brazieria minuscula Federated States of Micronesia: Chuuk Islands (Tol)
R	Australia: Queensland  Helixarion submissus (Peloparion submissus)	V	Brazieria obesa Federated States of Micronesia: Chuuk Islands (Tol)
v	Australia: New South Wales  Kusaiea frivola	V	Brazieria velata Federated States of Micronesia: Chuuk Islands
v	Federated States of Micronesia: Kosrae  Lamprocystis denticulata Guam; Northern Marianas: Saipa, Rota	V	Hongolua kondorum Federated States of Micronesia: Chuuk Islands (Moen, Dublon)
V	Lamprocystis fastigata Guam; Northern Marianas: Rota	V	Kondoa kondorum Federated States of Micronesia: Chuuk Islands (Dublon)
V	Lamprocystis hahajimana Japan: Ogasawara	Е	Trochomorpha apia American Samoa: Tutuila
V	Lamprocystis hornbosteli Northern Marianas: Tinian	V	Trochomorpha approximata
V	Lamprocystis misella Guam	V	Federated States of Micronesia: Chuuk Islands (Dublon) Trochomorpha carolinae
E	Liardetia boninensis Japan: Ogasawara	v	Federated States of Micronesia: Polmpei  Trochomorpha conoides
V	Liardetia tenuisculpta Federated States of Micronesia: Kosrae,	V	Federated States of Micronesia: Pohnpei

Pohnpei

- V Trochomorpha contigua Federated States of Micronesia: Pohnpei
- V Trochomorpha kuesteri
  Federated States of Micronesia: Pohnpei
- R Trochomorpha melvillensis
  Australia: Northern Territory
- V Trochomorpha nigritella Federated States of Micronesia: Pohnpei
- V Videna electra Palau: Peleliu
- V Videna oleacina Palau: Peleliu
- V Videna pagodula Palau: Peleliu
- V Videna pumila Palau: Peleliu

# Family VITRINIDAE

- R Insulivitrina machadoi Spain: Canary Islands (Gran Canaria)
- R Insulivitrina mascaensis
  Spain: Canary Islands (Tenerife)
- V Insulivitrina reticulata
  Spain; Canary Islands (Tenerife)
- R Insulivitrina tuberculata
  Spain: Canary Islands (Tenerife)
- R Phenacolimax atlantica Portugal: Azores
- R Vitrea pseudotrolli France; Italy
- K Vitrea striata Spain: Ibiza

#### Family ZONITIDAE

- I Glyphyalinia pecki USA
- E Oxychilus agostinhoi Portugal: Azores
- K Oxychilus basajauna Spain
- I Paravitrea clappi USA
- R Retinella stabilei Italy

#### Family PARMACELLIDAE

V Parmacella tenerifensis
Spain: Canary Islands (Tenerife)

#### Family MILACIDAE

V Tandonia nigra Switzerland

# Family LIMACIDAE

- K Deroceras fatrense Slovakia
- V Malacolimax wiktori Spain: Canary Islands (Tenerife)

# Family POLYGYRIDAE

- I Ashmunella pasonis
  Franklin Mountain Woodland Snail
  USA
- I Cryptomastix magnidenta Mission Creek Oregonian USA
- I Mesodon archeri Archer's Toothed Land Snail USA
- I Mesodon clenchi
  Clench's Middle-toothed Land Snail
  USA
- I Mesodon jonesianus
  Jones' Middle-toothed Land Snail
  USA
- I Mesodon magazinensis
  Magazine Mountain Middle-toothed Snail
  USA
- I Polygyra hippocrepis USA
- I Polygyra peregrina
  Strange Many-whorled Land Snail
  USA
- E Polygyriscus virginianus Virginia Fringed Mountain Snail USA
- I Stenotrema hubrichti USA
- I Stenotrema pilsbryi
  Pilsbry's Narrow-apertured Land Snail
  USA
- I Triodopsis occidentalis
  Western Three-toothed Land Snail
  USA

E	Triodopsis platysayoides Flat-spired Three-toothed Snail	R	Craterodiscus pricei Australia: Queensland
v	USA  Vespericola karokorum	E	Cristilabrum bubulum Australia: Western Australia
	Karok Hesperion USA	E	Cristilabrum buryillum Australia: Western Australia
Fam R	ily CAMAENIDAE  Amphidromus cognatus	E	Cristilabrum grossum Australia: Western Australia
E	Australia: Northern Territory  Amplirhagada astuta	V	Cristilabrum isolatum Australia: Western Australia
v	Australia: Western Australia (Koolan Island)  Amplirhagada elevata	V	Cristilabrum monodon Australia: Western Australia
I	Australia: Western Australia  Amplirhagada herbertena	V	Cristilabrum primum Australia: Western Australia
	Australia: Western Australia	V	Cristilabrum rectum
Ι	Amplirhagada montalivetensis Australia: Western Australia (Montalivet Island)	V	Australia: Western Australia Cristilabrum simplex
R	Amplirhagada novelta Australia: Western Australia	E	Australia: Western Australia Cristilabrum solitudum
E	Amplirhagada questroana Australia: Western Australia	I	Australia: Western Australia Cristilabrum spectaculum
R	Austrochloritis ascensa Australia: New South Wales	R	Australia: Western Australia  Cupedora broughami
R	Austrochloritis pusilla Australia: Queensland	E	Australia: South Australia  Cupedora evandaleana
I	Baccalena squamulosa Australia: Northern Territory	R	Australia: South Australia  Cupedora luteofusca
v	Badistes benneti	R	Australia: South Australia  Cupedora marcidum
	(Meridolum benneti) Australia: Queensland	E	Australia: New South Wales  Cupedora nottensis
V	Badistes corneovirens (Meridolum corneovirens)		Australia: South Australia
R	Australia: New South Wales  Badistes depressa	I	Cupedora sutilosa Australia: Kangaroo Island
	(Meridolum depressa) Australia: New South Wales	E	Cupedora tomsetti Australia: Kangaroo Island
R	Badistes marshalli (Meridolum marshalli)	E	Damochlora millepunctata Australia: Western Australia
I	Australia: New South Wales  Baudinella baudinensis	V	Damochlora spina Australia: Western Australia
v	Australia: Western Australia (Baudin Island)  Carinotrachia carsoniana	E	Divellomelon hillieri Australia: Northern Territory
R	Australia: Western Australia  Cooperconcha centralis  Australia: South Australia	K	Glyptorhagada asperrima (Eximiorhagada asperrima) Australia: South Australia

Е	Glyptorhagada bordaensis Australia: Kangaroo Island	E	Mandarina polita Japan: Ogasawara
E	Glyptorhagada euglypta Australia: South Australia	Е	Mandarina ponderosa Japan: Ogasawara
R	Glyptorhagada janaslini Australia: South Australia	Е	Mandarina suenoae Japan: Ogasawara
E	Glyptorhagada kooringensis Australia: South Australia	R	Meliobba shafferyi Australia: Queensland
R	Glyptorhagada silveri Australia: South Australia	R	Mesodontrachia desmonda Australia: Northern Territory
R	Glyptorhagada tattawuppana Australia: South Australia	R	Mesodontrachia fitzroyana Australia: Northern Territory
V	Granulomelon grandituberculatum Australia: Northern Territory	V	Mouldingia occidentalis Australia: Western Australia
V	Hadra wilsoni Australia: Western Australia	Е	Mouldingia orientalis Australia: Western Australia
R	Jacksonena delicata	R	Mussonena campbelli
	Australia: Queensland		Australia: Queensland
R	Jacksonena rudis Australia: Queensland	V	Ningbingia australis Australia: Western Australia
E	Kimboraga exanimus Australia: Western Australia	V	Ningbingia bulla Australia: Western Australia
V	Kimboraga koolanensis Australia: Western Australia (Koolan Island)	V	Ningbingia dentiens Australia: Western Australia
V	Kimboraga micromphala Australia: Western Australia	V	Ningbingia laurina Australia: Western Australia
V	Kimboraga yammerana Australia: Western Australia	V	Ningbingia octava Australia: Western Australia
R	Lacustrelix minor Australia: South Australia	V	Ningbingia res Australia: Western Australia
R	Lacustrelix yerelinana	R	Noctepuna muensis
	Australia: South Australia	14	Australia: Queensland
Е	Mandarina anijimana Japan: Ogasawara	E	Occirhenea georgiana Australia: Western Australia.
Е	Mandarina aureola Japan: Ogasawara	R	Offachloritis dryanderensis Australia; Oueensland
V	Mandarina chichijimana Japan: Ogasawara	R	Ordtrachia australis Australia: Northern Territory
E	Mandarina exoptata Japan: Ogasawara	V	Ordtrachia elegans
V	Mandarina hahajimana Japan: Ogasawara	R	Australia: Western Australia  Ordtrachia septentrionalis
V	Mandarina hirasei		Australia: Northern Territory
	Japan: Ogasawara	R	Papuexul bidwilli Australia: New South Wales, Queensland
V	Mandarina mandarina Japan: Ogasawara		Australia, New South Wales, Queensland

R	Papustyla pulcherrima Papua New Guinea: Manus Island	V	Torresitrachia thedana Australia: Western Australia
K	Planispira wesselensis (Cristigibba wesselensis)	V	Turgenitubulus aslini Australia: Western Australia
R	Australia: Northern Territory  Pleuroxia arcigerens	V	Turgenitubulus christenseni Australia: Western Australia
E	Australia: Northern Territory  Pleuroxia hinsbyi	V	Turgenitubulus costus Australia: Western Australia
R	Australia: New South Wales  Pleuroxia italowiana	V	Turgenitubulus depressus Australia: Western Australia
R	Australia: South Australia  Posorites turneri	V	Turgenitubulus foramenus Australia: Western Australia
	Australia: Queensland	V	Turgenitubulus opiranus
R	Prototrachia sedula Australia: Northern Territory	V	Australia: Western Australia  Turgenitubulus pagodula
V	Prymnbriareus nimberlinus Australia: Western Australia	V	Australia: Western Australia  Turgenitubulus tanmurrana
V	Rhagada gibbensis Australia: Western Australia	V	Australia: Western Australia Vidumelon wattii
E	Rhagada harti Australia: Western Australia	v	Australia: Northern Territory  Westraltrachia alterna
I	Semotrachia euzyga Australia: Northern Territory		Australia: Western Australia
v	Semotrachia sublevata Australia: Northern Territory	V	Westraltrachia inopinata Australia: Western Australia
R	Semotrachia winneckeana	V	Westraltrachia lievreana Australia: Western Australia
v	Australia: Northern Territory  Setobaudinia collingii	V	Westraltrachia porcata Australia: Western Australia
R	Australia: Western Australia (Parry Island) Setobaudinia victoriana	V	Westraltrachia recta Australia: Western Australia
v	Australia: Northern Territory  Sinumelon bednalli	V	Westraltrachia subtila Australia: Western Australia
R	Australia: Northern Territory  Sphaerospira macleavi	V	Westraltrachia turbinata Australia: Western Australia
	Australia: Queensland (Whitsunday Islands)	Fam	ily HYGROMIIDAE
R	Sphaerospira rockhamptonensis Australia: Queensland	V	Petasina subtecta Austria
R	Sphaerospira whartoni Australia: Queensland (Holbourne Island)	I	Plentusia vendia Spain
E	Thersites mitchellae Australia: New South Wales	V	Trichia biconica Switzerland
V	Torresitrachia crawfordi Australia: Western Australia	R	Trichia caelata Switzerland
K	Torresitrachia funium Australia: Northern Territory	R	Trichia gramnicola Germany

E	Trichia oreinos Austria	R	Caseolus hartungi Portugal: Madeira
Family HELICELLIDAE  I Candidula setubalensis Portugal  I Cyrnotheba corsica France: Corsica  V Trochoidea gharlapsi		V	Caseolus leptostictus
I		V	Portugal: Madeira  Caseolus subcalliferus
I		R	Portugal: Madeira (Porto Santo)  Chilostoma cingulellum
V	Trochoidea gharlapsi Malta	R	Poland; Slovakia  Chilostoma rossmaessleri
R	Trochoidea spratti Malta	R	Poland; Slovakia  Codringtonia codringtonii
Family HELICIDAE			Rock Snail Greece
V	Actinella actinophora Portugal: Madeira	V	Cylindrus obtusus Austria
V	Actinella anaglyptica Portugal: Madeira	R	Discula bicarinata Portugal: Madeira (Porto Santo)
V	Actinella armitageana Portugal: Madeira	V	Discula bulweri Portugal: Madeira (Porto Santo)
R	Actinella carinofausta Portugal: Madeira	R	Discula cheiranticola Portugal: Madeira (Porto Santo)
E	Actinella effugiens Portugal: Madeira (Porto Santo)	R	Discula echinulata Portugal: Madeira (Porto Santo)
E	Actinella fausta Portugal: Madeira	R	Discula leacockiana Portugal: Madeira (Porto Santo)
V	Actinella giramica Portugal: Madeira	V	Discula oxytropis Portugal: Madeira (Porto Santo)
R	Actinella laciniosa Portugal: Madeira	V	Discula tabellata Portugal: Madeira
V	Actinella obserata Portugal: Madeira	R	Discula tectiformis Portugal: Madeira (Porto Santo)
E	Actinella robusta Portugal: Madeira	Е	Discula testudinalis
V	Canariella leprosa Spain: Canary Islands (Tenerife)	v	Portugal: Madeira (Porto Santo)  Discula turricula
V	Canariella pthonera Spain: Canary Islands (Tenerife)	R	Portugal: Madeira (Porto Santo)  Disculella maderensis
R	Caseolus abjectus Portugal: Madeira (Porto Santo)	V	Portugal: Madeira  Disculella spirulina
v	Caseolus calculus		Portugal: Madeira
	Portugal: Madeira (Porto Santo)	R	Elona quimperiana France; Spain
R	Caseolus commixtus Portugal: Madeira (Porto Santo)	R	Geomitra moniziana Portugal: Madeira
R	Caseolus consors Portugal: Madeira (Porto Santo)	Е	Geomitra tiarella Portugal: Madeira

K	Gittenbergeri turriplana Portugal	R	Spirorbula squalida Portugal: Madeira	
I	Helix ceratina France: Corsica	I	Tacheocampylaea raspaili France: Corsica	
Е	Helix godetiana Greece: Cyclades	V	Tacheocampylaea tacheoides Italy	
V	Hemicycla adansoni Spain: Canary Islands (Tenerife)	R	Trissexodon constrictus France; Spain	
R	Hemicycla berkeleyi Spain: Canary Islands	R	Tyrrheniella josephi Italy	
V	Hemicycla glyceia Spain: Canary Islands (Tenerife)		Family HELMINTHOGLYPTIDAE  K Eremarionta immaculata	
V	Hemicycla inutilis Spain: Canary Islands (Tenerife)	K	Eremarionta immaculata White Desrt Snail USA	
V	Hemicycla mascaensis Spain: Canary Islands (Tenerife)	K	Eremarionta millepalmarum Thousand Palms Desert Snail	
E	Hemicycla modesta Spain: Canary Islands (Tenerife)	K	USA Eremarionta morongoana	
E	Hemicycla plicaria Spain: Canary Islands (Tenerife)		Morongo Desert Snail USA	
V	Hemicycla pouchet Spain: Canary Islands (Tenerife)	R	Helminthoglypta allynsmithi Merced Canyon Shoulderband USA	
V	Idiomela subplicata Portugal: Madeira (Porto Santo)	I	Helminthoglypta callistoderma Kern Shoulderband	
V	Lampadia webbiana Portugal: Madeira (Porto Santo)	K	USA  Helminthoglypta coelata  Mesa Shoulderband  USA	
R	Lemniscia calva Portugal: Madeira	K		
Е	Lemniscia galeata Portugal: Madeira	K	Helminthoglypta mohaveana Victorville Shoulderband	
V	Lemniscia michaudi Portugal: Madeira (Porto Santo)	E	USA Helminthoglypta walkeriana	
R	Leptaxis furva Portugal: Madeira		Morro Shoulderband USA	
V	Leptaxis portosancti Portugal: Madeira (Porto Santo)	K	Micrarionta facta Santa Barbara Island Snail USA	
Е	Leptaxis wollastoni Portugal: Madeira (Porto Santo)	Е	Micrarionta feralis San Nicolas Island Snail	
R	Pseudocampylaea portosanctana Portugal: Madeira (Porto Santo)	**	USA	
R	Spirorbula latens Portugal: Madeira	K	K Micrarionta gabbi San Clemente Island Snail USA	
R	Spirorbula obtecta Portugal: Madeira	K	Micrarionta opuntia Prickly Pear Island Snail USA	

- R Monadenia circumcarinata Keeled Sideband USA
- V Monadenia setosa Trinity Bristle Snail USA
- K Monadenia troglodytes Shasta Sideband USA
- I Sonorella eremita Sax Xavier Talus Snail USA
- I Sonorella metcalfi Franklin Mountain Talus Snail USA
- K Xerarionta intercisa Plain Cactus Snail USA
- K Xerarionta redimita
  Wreathed Cactus Snail
  USA
- K Xerarionta tryoni
  Bicolor Cactus Snail
  USA

#### Family ARIONIDAE

- R Arion obesoductus Austria
- K Arion vejdorskyi Czech Republic
- V Binneya notabilis Santa Barbara Shelled Slug USA
- V Geomalacus maculosus Ireland; Portugal; Spain

#### Class BIVALVIA

#### Order UNIONOIDA

#### Family MARGARITIFERIDAE

- E Margaritifera auricularia
   Belgium; Czech Republic; France; Germany;
   Italy; Luxembourg; Netherlands; Portugal;
   Spain; United Kingdom
- E Margaritifera hembeli Louisiana Pearlshell USA

V Margaritifera margaritifera
Austria; Belgium; Czech Republic; Denmark;
Finland; France; Germany; Iceland; Ireland;

Luxembourg; Norway; Poland; Portugal; Russia: Spain; Sweden; United Kingdom

- I Margaritifera marrianae Alabama Pearl Shell USA
- I Margaritifera monodonta (Cumberlandia monodonta) Spectacle Case USA

# Family UNIONIDAE

- I Alasmidonta arcula Altamaha Arcmussel USA
- I Alasmidonta atropurpurea Cumberland Elktoe USA
- E Alasmidonta heterodon Dwarf Wedge Mussel USA
- I Alasmidonta raveneliana Appalacian Elktoe USA
- I Alismodonta varicosa Brook Floater USA
- I Alasmidonta wrightiana Ochlockonee Arcmussel USA
- I Amblema neislerii Fat Threeridge USA
- I Anodonta californensis California Floater USA
- E Arkansia wheeleri
  Ouachita Rock Pocketbook
  USA
- E Carunculina cylindrellus (Toxolasma cylindrellus) Pale Lilliput USA
- I Carunculina lividus (Toxolasma lividus) Purple Lilliput USA

- I Carunculina pullus (Toxolasma pullus) Savannah Lilliput USA
- I Cyprogenia aberti Western Fan-shell USA
- E Cyprogenia stegaria
  Fanshell
  USA
- E Dromus dromas
  Dromedary Pearly Mussel
  USA
- I Dysnomia brevidens
  (Epioblasma brevidens)
  Cumberlandian Combshell
  USA
- I Dysnomia capsaeformis
  (Epioblasma capsaeformis)
  Oyster Mussel
  USA
- E Dysnomia metastriata
  (Epioblasma metastriata)
  Upland Combshell
  USA
- E Dysnomia othcaloogensis
  (Epioblasma othcaloogensis)
  Southern Acornshell
  USA
- E Dysnomia penita
  (Epioblasma penita)
  Southern Combshell
  USA
- I Dysnomia triquetra
  (Epioblasma triquetra)
  Snuffbox
  USA
- E Dysnomia turgidula
  (Epioblasma turgidula)
  Turgid-blossom
  USA
- I Elliptio jayensis Flat Spike USA
- I Elliptio lanceolata Yellow Lance USA
- I Elliptio marsupiobesa
  Cape Fear Spike
  USA

- I Elliptio nigella Winged Spike USA
- I Elliptio shepardiana Altamaha Lance USA
- I Elliptio spinosa Altamaha Spinymussel USA
- E Elliptio steinstansana Tar River Spinymussel USA
- I Elliptio waccamawensis
  Waccamaw Spike
  USA
- E Fusconaia cor Shiny Pigtoe USA
- E Fusconaia cuneolus Fine-rayed Pigtoe USA
- I Fusconaia escambia Narrow Pigtoe USA
- I Fusconaia masoni Atlantic Pigtoe USA
- E Hemistena lata Cracking Pearlymussel USA
- E Lampsilis abrupta
  Pink Mucket
  USA
- V Lampsilis altilis
  Fine-lined Pocketbook
  USA
- I Lampsilis australis Southern Sandshell USA
- I Lampsilis binominata
  Lined Pocketbook
  USA
- I Lampsilis cariosa Yellow Lampmussel USA
- I Lampsilis fullerkati
  Waccamaw Fatmucket
  USA

- E Lampsilis higginsii
  Higgin's Eye
  USA
- V Lampsilis perovalis Orangenacre Mucket USA
- V Lampsilis powellii Arkansas Fatmucket USA
- I Lampsilis rafinesqueana Neosho Mucket USA
- I Lampsilis salinasensis (Disconaias salinasensis) Salina Mucket USA
- E Lampsilis streckeri Speckled Pocketbook USA
- I Lampsilis subangulata Shinyrayed Pocketbook USA
- E Lampsilis virescens Alabama Lampmussel USA
- E Lasmigona decorata
  Carolina Heelsplitter
  USA
- I Lasmigona holstonia
  Tennessee Heelsplitter
  USA
- I Lasmigona subviridis
  Green Floater
  USA
- V Leguminaia compressa (Microcondylaea compressa) Italy; Switzerland; Yugoslavia
- E Lemiox rimosus
  Birdwing Pearlymussel
  USA
- I Leptodea leptodon Scaleshell USA
- I Lexingtonia dolabelloides Slabside Pearlymussel USA
- V Medionidus acutissimus Alabama Moccasinshell USA

- E Medionidus parvulus Coosa Moccasinshell USA
- I Nephronaias sloatianus (Elliptoideus sloatianus) Purple Bankclimber USA
- E Obovaria retusa Ring Pink USA
- I Obovaria rotulata Round Ebonyshell USA
- E Pegias fabula
  Littlewing Pearlymussel
  USA
- E Plethobasus cicatricosus
  White Wartyback
  USA
- E Plethobasus cooperianus Orangefoot Pimpleback USA
- E Pleurobema clava Clubshell USA
- E Pleurobema collina
  James River Spinymussel
  USA
- E Pleurobema curtum Black Clubshell USA
- E Pleurobema decisum Southern Clubshell USA
- E Pleurobema furvum Dark Pigtoe USA
- E Pleurobema georgianum Southern Pigtoe USA
- E Pleurobema gibberum
  Cumberland Pigtoe
  USA
- E Pleurobema marshalli
  Flat Pigtoe
  USA
- I Pleurobema oviforme Tennessee Clubshell USA

I Pleurobema perovatum Ovate Clubshell **USA** 

E Pleurobema plenum Rough Pigtoe **USA** 

Ι Pleurobema pyriforme Oval Pigtoe **USA** 

T Pleurobema rubellum Warrior Pigtoe **USA** 

I Pleurobema rubrum Pyramid Pigtoe **USA** 

E Pleurobema taitianum Heavy Pigtoe **USA** 

Ι Pleurobema verum True Pigtoe **USA** 

Ι Potamilus amphiehaenus Texas Heelsplitter **USA** 

E Potamilus capax Fat Pocketbook **USA** 

Potamilus inflatus Alabama Heelsplitter USA

K Pseudanodonta complanata

Austria; Belarus; Belgium; Bulgaria; Czech Republic; Estonia; Finland; Germany; Hungary; Kazakhstan; Latvia; Lithuania; Moldova; Norway; Poland; Romania; Russia; Sweden; Switzerland; Slovakia; Ukraine; United Kingdom

E Ptychobranchus greenii Triangular Kidneyshell **USA** 

Ι Ptychobranchus jonesi Southern Kidneyshell

I Quadrula cylindrica strigillata Rough Rabbitsfoot **USA** 

E Quadrula fragosa Winged Mapleleaf **USA** 

E Quadrula intermedia Cumberland Monkeyface

E Quadrula sparsa Appalachian Monkeyface **USA** 

E Quadrula stapes Stirrupshell **USA** 

Quincuncina mitchelli I False Spike **USA** 

I Simpsoniconcha ambigua (Simpsonaias ambigua) Salamander Mussel USA

Truncilla cognata Ι Mexican Fawnsfoot USA

E Unio cariei (Nodularia cariei) Réunion

E Unio crassus

> Austria; Belarus; Belgium; Bulgaria; Czech Republic; Denmark; Estonia; Finland; France; Germany; Hungary; Kazakhstan; Latvia; Liechtenstein; Lithuania; Luxembourg: Moldova: Netherlands; Poland; Romania; Russia: Slovakia: Sweden: Switzerland: Ukraine

V Unio elongatulus France; Italy; Spain; Switzerland; Yugoslavia

R Unio turtoni France: Corsica

Villosa choctawensis I Choctaw Bean USA

Ι Villosa fabalis Raved Bean USA

Ι Villosa ortmanni Kentucky Creekshell **USA** 

Ι Villosa perpurpurea Purple Bean **USA** 

Villosa trabalis Cumberland Bean **USA** 

# Family HYRIIDAE

## I Hyridella moretonicus (Velesunio moretonicus) Australia: Tasmania

# Order VENEROIDA

#### Family TRIDACNIDAE

# I Hippopus hippopus

Bear Paw Clam

(Indo-Pacific: including Bay of Bengal, South China Sea, East China Sea, Coral Sea)
American Samoa (ex?); Australia: Queensland, Western; Federated States of Micronesia; Fiji (ex?); Guam (ex?); India?: Andaman and Nicobar Islands; Indonesia; Japan; Ogasawarashoto (Bonin Islands) (ex?), Ryukyu Islands (ex?); Kiribati: Gilbert Islands; Malaysia; Marshall Islands; Myanmar; New Caledonia; Northern Marianas (ex?); Palau; Philippines; Papua New Guinea; Paracel Islands?; Samoa (ex?); Singapore; Solomon Islands; Taiwan (ex?); Thailand?; Tonga (ex?); Tuvalu; Vanuatu

# I Hippopus porcellanus

China Clam

(Indo-Pacific: including Flores Sea, South China Sea)

Indonesia; Palau; Philippines: Sulu Archipelago, Masbate Island; South China Sea reefs

#### K Tridacna crocea

Crocus Clam

(Indo-Pacific: including South China Sea, Coral Sea)

Australia; Guam (ex?); Indonesia; Japan: Ryukyu Islands; Malaysia; Northern Marianas (ex?); Palau; Papua New Guinea; Philippines; Singapore; Solomon Islands; Thailand; Tuvalu?; Vanuatu?; Viet Nam

#### V Tridacna derasa

Southern Giant clam

(Indo-Pacific: Coral Sea)

Australia: Queensland; Cocos (Keeling) Islands?; Fiji; French Polynesia?: Tuamotu Archipelago; Guam (ex?); Indonesia: Irian Jaya, Taka Bone Rate in Sulawesi; New Caledonia; Northern Marianas (ex?); Palau; Papua New Guinea; Philippines; Solomon Islands; Tonga: Tongatapu; Tuvalu?; Vanuatu?

[American Samoa; Cook Islands; Federated States of Micronesia; Marshall Islands]

# V Tridacna gigas

Giant Clam

(Indo-Pacific: including South China Sea, Coral Sea)

Australia: Queensland, Western; Federated States of Micronesia: Lamotrek Atoll, Wesy Fagu; Fiji (ex?); Indonesia; Japan: Ryukyu Islands (ex?); Kiribati: Gilbert Islands; Malaysia; Marshall Islands; Myanmar; New Caledonia (ex?); Northern Marianas (ex?); Palau; Papua New Guinea; Philippines; Solomon Islands; Taiwan (ex?); Thailand; Tuvalu; Vanuatu (ex?)

[Guam (ex?); USA: including Hawaiian Islands]

#### K Tridacna maxima

Small Giant Clam

(Indian Ocean; Pacific Ocean)

American Samoa; Australia: including Lord Howe Island; British Indian Ocean Territory: Chagos Archipelago; China; Cook Islands; Egypt; Federated States of Micronesia; Fiji: French Polynesia; Guam; India: Andaman and Nicobar Islands, Lakshadweep; Indonesia; Japan; Kenya; Kiribati: Gilbert, Phoenix, Line Islands; Madagascar, Malaysia; Maldives; Marshall Islands; Mauritius; Mozambique; Myanmar, New Caledonia; Northern Marianas; Palau; Papua New Guinea; Philippines; Pitcairn Islands: Henderson Island: Samoa: Saudi Arabia; Seychelles; Singapore; Solomon Islands: South Africa: Sri Lanka: Taiwan: Thailand; Tokelau; Tonga; Tuvalu; USA Pacific Islands; Vanuatu; Viet Nam

#### I Tridacna squamosa

Scaly Clam, Fluted Clam

(Indian Ocean; Pacific Ocean)

American Samoa; Australia; British Indian Ocean Territory: Chagos Archipelago; Egypt; Federated States of Micronesia; Fiji; French Polynesia: Tuamotu Archipelago; India: Andaman and Nicobar Islands, Lakshadweep; Indonesia; Japan (ex?); Kenya; Kiribati: Gilbert Islands: Madagascar: Malaysia: Maldives: Marshall Islands: Mauritius: Mozambique; Myanmar; New Caledonia: Northern Marianas (ex?); Palau; Papua New Guinea; Philippines; Samoa; Saudi Arabia; Seychelles; Singapore; Solomon Islands; South Africa; Sri Lanka; Thailand; Tokelau; Tonga; Tuvalu; Vanuatu; Viet Nam

[Guam (ex?); USA: including Hawaiian Islands]

K Tridacna tevoroa

Tevoro Clam

(South Pacific)

Fiji: Lau Islands; Tonga: Ha'apai and Vava'u Groups

#### Family PISIDIIDAE

I Pisidium sanguinichristi USA

I Pisidium ultramontanum Montane Peaclam USA

# Phylum ANNELIDA

Class POLYCHAETA

Order EUNICIDA

Family EUNICIDAE

K Eunice viridis Palolo Worm

(South Pacific)

#### Class HIRUDINEA

#### Order ARHYNCHOBDELLAE

# Family HIRUDINIDAE

I Hirudo medicinalis

Medicinal Leech

Albania; Armenia; Austria; Azerbaijan?; Belarus?; Belgium; Bulgaria; Czech Republic?; Denmark; Estonia?; Finland; France; Georgia; Germany; Greece; Hungary; Italy; Kazakhstan?; Latvia?; Lithuania; Luxembourg; Moldova; Netherlands; Norway; Poland; Portugal; Romania; Russia; Spain; Sweden; Switzerland; Turkey; Ukraine; United Kingdom; Yugoslavia

#### Class OLIGOCHAETA

Order HAPLOTAXIDA

Family KOMAREKIONIDAE

V Komarekiona eatoni USA

Family LUTODRILIDAE

R Lutodrilus multivesiculatus USA

#### Family MEGASCOLECIDAE

E Driloleirus americanus (Megascolides americanus) Washington Giant Earthworm USA

E Driloleirus macelfreshi (Megascolides macelfreshi) Oregon Giant Earthworm USA

V Megascolides australis Giant Gippsland Earthworm Australia

# Phylum ARTHROPODA

Class MEROSTOMATA

Order XIPHOSURA

Family LIMULIDAE

K Carcinoscorpius rotundicauda
 Horseshoe Crab
 Coastal waters - India; Indonesia; Malaysia;
 Philippines; Singapore; Thailand

K Limulus polyphemus
Horseshoe Crab
Coastal waters - Canada; Mexico; USA

K Tachypleus gigas
 Horseshoe Crab
 Coastal waters - India; Indonesia; Malaysia;
 Singapore; Thailand

K Tachypleus tridentatus
 Horseshoe Crab
 Coastal waters - China; Indonesia; Japan;
 Malaysia; Philippines; Taiwan; Viet Nam

Class ARACHNIDA

Order ARANEAE

Family THERAPHOSIDAE

K Euathlus smithi (Brachypelma smithi) Red-kneed Tarantula Mexico

Family HEXATHELIDAE

I Macrothele cretica Greece: Crete

#### Family CTENIZIDAE

I Cyclocosmia torreya
Torreya Trap-door Spider
USA

#### Family GRADUNGULIDAE

I Spelungula cavernicola Nelson Cave Spider New Zealand

#### Family LEPTONETIDAE

E Leptoneta myopica Tooth Cave Spider USA

# Family LINYPHIIDAE

- R Troglohyphantes gracilis
  Kocevje Subterranean Spider
  Yugoslavia
- R Troglohyphantes similis Kocevje Subterranean Spider Yugoslavia
- R Troglohyphantes spinipes Kocevje Subterranean Spider Yugoslavia

# Family ARANEIDAE

I Meta dolloff
Dolloff Cave Spider
USA

#### Family GNAPHOSIDAE

I Cesonia irvingi Key Gnaphosid Spider Bahamas: USA

# Family LYCOSIDAE

- Adelocosa anops
   No-eyed Big-eyed Wolf Spider
   USA: Hawaiian Islands
- I Lycosa ericeticola
  Rosemary Wolf Spider
  USA
- R Pardosa diuturna
  Glacier Bay Wolf Spider
  USA
- I Sosippus placidus
  Lake Placid Funnel Wolf Spider
  USA

#### Family ASAURIDAE

V Dolomedes plantarius
 Great Raft Spider
 Austria; Belarus?; Belgium; Denmark; France;
 Georgia?; Germany; Hungary; Italy; Latvia;
 Lithuania; Netherlands; Poland; Romania;
 Russia; Slovakia; Sweden;

# Order PSEUDOSCORPIONIDA

# Family NEOBISIDAE

- I Microcreagris imperialis
  Empire Cave Pseudoscorpion
  USA
- E Microcreagris texana
  Tooth Cave Pseudoscorpion
  USA

## Order OPILIONES

#### Family PHALANGODIDAE

V Banksula melones Melones Cave Harvestman USA

#### Class CRUSTACEA

#### Order CLADOCERA

#### Family DAPHNIDAE

- R Daphnia jollyi
  Water Flea
  Australia: Western Australia
- R Daphnia occidentalis
  Water Flea
  Australia: Western Australia
- R Daphnia nivalis
  Water Flea
  Australia: New South Wales

#### Family CHYDORIDAE

R Rhynchochydorus australiensis Water Flea Australia: New South Wales

#### Order ANOSTRACA

#### Family ARTEMIIDAE

I Artemia monica Mono Lake Brine Shrimp USA

# Family BRANCHINECTIDAE

I Branchinecta gigas Giant Fairy Shrimp Canada; USA

#### Family BRANCHIPODIDAE

I Parartemia contracta
Brine Shrimp
Australia: Western Australia

#### Family THAMNOCEPHALIDAE

- K Branchinella apophysata
   Fairy Shrimp
   Australia: Western Australia
- K Branchinella basispina
   Fairy Shrimp
   Australia: Western Australia
- K Branchinella denticulata
   Fairy Shrimp
   Australia: Western Australia
- K Branchinella simplex
   Brine Shrimp
   Australia: Western Australia
- K Branchinella wellardi
   Fairy Shrimp
   Australia: Western Australia

#### Order MYODOCOPINA

#### Family CYPRIDINIDAE

K Zonocypretta kalimna
 Seed Shrimp
 Australia: Western Australia

#### Family NOTODROMADIDAE

- K Newnhamia fuscata
  Seed Shrimp
  Australia: New South Wales
- K Newnhamia insolita
   Seed Shrimp
   Australia: New South Wales

#### Order PODOCOPINA

#### Family LIMNOCYTHERIDAE

K Limnocythere porphyretica
Seed Shrimp
Australia: Western Australia

#### Order CALANOIDA

#### Family CENTROPAGIDAE

- R Boeckella nyoraensis Australia
- R Calamoecia australica Australia: Victoria

R Calamoecia elongata
Australia: Western Australia

#### Order HARPACTICOIDA

# Family CANTHOCAMPTIDAE

- K Canthocamptus echinopyge Australia: Tasmania
- K Canthocamptus dedeckkeri Australia: Victoria
- K Canthocamptus tasmaniae Australia: Tasmania
- K Canthocamptus longipes Australia: Victoria
- K Canthocamptus mammillifurca Australia: Victoria
- K Canthocamptus sublaevis Australia: Victoria
- K Fibulacamptus gracilior Australia: Victoria
- K Fibulacamptus bisetosus Australia: Western Australia

#### Order THORACICA

# Family BALANIDAE

- I Armatobalanus nefrens USA
- I Balanus aquila USA

#### Order ANASPIDACEA

#### Family ANASPIDIDAE

- I Allanaspides helonomus Syncarid Shrimp Australia: Tasmania
- V Allanaspides hickmani Syncarid Shrimp Australia: Tasmania
- K Anaspides sp.
   Syncarid Shrimps
   Australia: Tasmania
- I Paranaspides lacustris
  Great Lake Shrimp
  Australia: Tasmania

#### Family PSAMMASPIDIDAE

K Eucrenonaspides oinotheke Australia: Tasmania

# Order ISOPODA

#### Family CIROLANIDAE

- V Antrolana lira Madison Cave Isopod USA
- I Arubolana imula Aruba
- K Mexilana saluposi Mexico
- K Speocirolana affinis Mexico
- K Speocirolana interstitialis Mexico
- K Specirolana thermydromis Mexico

#### Family SPHAEROMATIDAE

- K Thermosphaeroma dugesi Mexico
- K Thermosphaeroma milleri Mexico
- K Thermosphaeroma smithi Mexico
- K Thermosphaeroma subequalum Mexico
- E Thermosphaeroma thermophilum Socorro Isopod USA

#### Family TRICHONISCIDAE

K Metatrichoniscoides celticus United Kingdom

#### Family STYLONISCIDAE

I Styloniscus sp. Australia: Tasmania

#### Family ARMADILLIDAE

I Echinodillo cavaticus Australia: Tasmania

#### Family PHREATOICIDAE

- I Mesacanthotelson setosis
  Australia: Tasmania
- R Onchotelson brevicaudatus Australia: Tasmania
- R Onchotelson spatulatus Australia: Tasmania

R Uramphisopus pearsoni Australia: Tasmania

#### Family ASELLIDAE

- I Caecidotea barri Clifton Cave Isopod USA
- I Caecidotea macropoda
  Bat Cave Isopod
  USA
- I Caecidotea nickajackensis Nickajack Cave Isopod USA
- I Lirceus culveri
  Rye Cove Cave Isopod
  USA
- E Lirceus usdagalun
  Lee County Cave Isopod
  USA

#### Family STENASELLIDAE

- I Mexistenasellus coahuila Mexico
- R Mexistenasellus parzefalli Parzefall's Stenasellid Mexico
- R Mexistenasellus wilkensi Wilken's Stenasellid Mexico

# Order AMPHIPODA

# Family GAMMARIDAE

- I Gammarus acheronytes
  Illinois Cave Amphipod
  USA
- I Gammarus bousfieldi Bousfield's Amphipod USA
- I Gammarus desperatus Noel's Amphipod USA
- I Gammarus hyalieioides
  Diminutive Amphipod
  USA
- I Gammarus pecos Pecos Amphipod USA

# Family ORCHESTHDAE

I Spelasorchestia koloana Kaui Cave Amphipod USA: Hawaiian Islands

#### Family CRANGONYCTIDAE

- I Allocrangonyx hubrichti
  Central Missouri Cave Amphipod
  USA
- I Allocrangonyx pellucidus Oklahoma Cave Amphipod USA
- I Crangonyx dearolfi
  Pennsylvania Cave Amphipod
  USA
- I Crangonyx grandimanus Florida Cave Amphipod USA
- I Crangonyx hobbsi
  Hobb's Cave Amphipod
  USA
- I Stygobromus araeus
  Tidewater Interstitial Amphipod
  USA
- I Stygobromus arizonensis Arizona Cave Amphipod USA
- I Stygobromus balconius
  Balcones Cave Amphipod
  USA
- I Stygobromus barri
  Barr's Cave Amphipod
  USA
- I Stygobromus bifurcatus
  Bifurcated Cave Amphipod
  USA
- I Stygobromus bowmani
  Bowman's Cave Amphipod
  USA
- I Stygobromus clantoni Clanton's Cave Amphipod USA
- I Stygobromus conradi
  Burnsville Cove Cave Amphipod
  USA
- I Stygobromus cooperi
  Cooper's Cave Amphipod
  USA

- I Stygobromus dejectus Cascade Cave Amphipod USA
- I Stygobromus elatus Elevated Spring Amphipod USA
- I Stygobromus emarginatus Greenbrier Cave Amphipod USA
- I Stygobromus ephemerus Ephemeral Cave Amphipod USA
- I Stygobromus flagellatus Ezell's Cave Amphipod USA
- I Stygobromus gradyi
  Grady's Cave Amphipod
  USA
- I Stygobromus hadenoecus Devil's Sinkhole Amphipod USA
- I Stygobromus harai Hara's Cave Amphipod USA
- E Stygobromus hayi
  Hay's Spring Amphipod
  USA
- I Stygobromus heteropodus Pickle Springs Amphipod USA
- I Stygobromus hubbsi Malheur Cave Amphipod USA
- I Stygobromus identatus
  Tidewater Stygonectid Amphipod
  USA
- I Stygobromus longipes
  Long-legged Cave Amphipod
  USA
- I Stygobromus mackenziei
  Mackenzie's Cave Amphipod
  USA
- I Stygobromus montanus Mountain Cave Amphipod USA
- I Stygobromus morrisoni Morrison's Cave Amphipod USA

- I Stygobromus mundas
  Bath County Cave Amphipod
  USA
- I Stygobromus nortoni
  Norton's Cave Amphipod
  USA
- I Stygobromus onondagaensis Onondaga Cave Amphipod USA
- I Stygobromus ozarkensis Ozark Cave Amphipod USA
- I Stygobromus parvus Minute Cave Amphipod USA
- I Stygobromus pecki
  Peck's Cave Amphipod
  USA
- I Stygobromus pizzinii Pizzini's Amphipod USA
- I Stygobromus putealis
  Wisconsin Well Amphipod
  USA
- I Stygobromus reddelli Reddell's Cave Amphipod USA
- I Stygobromus smithii
  Alabama Well Amphipod
  USA
- I Stygobromus spinatus Spring Cave Amphipod USA
- I Stygobromus stellmacki Stellmack's Cave Amphipod USA
- I Stygobromus subtilis Subtle Cave Amphipod USA
- I Stygobromus wengerorum Wengeror's Cave Amphipod USA

#### Order DECAPODA

#### Family ATYIDAE

E Palaemonias alabamae Alabama Cave Shrimp USA

- E Palaemonias ganteri Kentucky Cave Shrimp USA
- E Syncaris pacifica
  California Freshwater Shrimp
  USA
- I Typhlatya monae Mona Cave Shrimp Puerto Rico

#### Family PALAEMONIDAE

- I Palaemonetes antrorum
  Balcones Cave Shrimp
  USA
- V Palaemonetes cummingi Squirrel Chimney Cave Shrimp USA

# Family CAMBARIDAE

- I Cambarus batchi Bluegrass Crayfish USA
- I Cambarus bouchardi
  Big South Fork Crayfish
  USA
- I Cambarus catagius
  Greenshorn Burrowing Crayfish
  USA
- I Cambarus chasmodactylus New River Crayfish USA
- I Cambarus extraneus Chickamanga Crayfish USA
- I Cambarus obeyensis
  Obey Crayfish
  USA
- E Cambarus zophonastes Hell Creek Crayfish USA
- I Orconectes jeffersoni Louisville Crayfish USA
- E Orconectes shoupi
  Nashville Crayfish
  USA
- I Procambarus acherontis
  Orlando Cave Crayfish
  USA

- I Procambarus connus Corrollton Crayfish USA
- I Procambarus lepidodactylus
  Pee Dee Iotic Crayfish
  USA

# Family ASTACIDAE

V Astacus astacus Noble Cravfish

> Austria; Belarus; Belgium; Bulgaria; Czech Republic?; Denmark; Estonia?; Finland; France; Germany; Hungary; Latvia?; Lithuania; Moldova?; Netherlands; Norway; Poland; Romania?; Russia; Slovakia; Sweden; Ukraine; Yugoslavia [Cyprus; Italy; Switzerland]

R Austropotamobius pallipes

White-clawed Crayfish

Austria; Czech Republic?; France; Germany; Hungary?; Ireland; Italy; Portugal; Slovakia; Spain; Switzerland; United Kingdom; Yugoslavia

- K Austropotamobius torrentium
   Stone Crayfish
   Austria; Czech Republic?; France; Germany;
   Hungary; Slovakia; Switzerland; Yugoslavia
- E Pacifastacus fortis Shasta Crayfish USA

# Family PARASTACIDAE

- I Astacoides madagascariensis
   Madagascar Freshwater Crayfish
   Madagascar
- I Astacopsis gouldi
  Giant Tasmanian Lobster
  Australia: Tasmania
- I Cherax tenuimanus
  Marron
  Australia: Western Australia
- R Engaeus australis
  Lilly Pilly Burrowing Crayfish
  Australia: Victoria
- K Engaeus mallacoota
  Mallacoota Burrowing Crayfish
  Australia: Victoria
- R Engaeus martigener
  Furneaux Burrowing Crayfish
  Australia: Flinders Island

- K Engaeus orramakunna Mount Arthur Burrowing Crayfish Australia: Tasmania
- R Engaeus phyllocercus Narracan Burrowing Crayfish Australia: Victoria
- R Engaeus rostrogaleatus Strzelecki Burrowing Crayfish Australia: Victoria
- V Engaeus spinicaudatus Scottsdale Burrowing Crayfish Australia: Tasmania
- V Engaeus sternalis Warragul Burrowing Crayfish Australia: Victoria
- E Engaewa similis
  Australia
- I Euastacus armatus Murray River Cray Australia
- R Euastacus bindal
  Australia: Oueensland
- I Euastacus bispinosus Glenelg River Cray Australia: Victoria
- R Euastacus eungella Australia: Oueensland
- R Euastacus fleckeri
  Australia: Oueensland
- R Euastacus hystricosus Australia: Queensland
- R Euastacus jagara
  Australia: Queensland
- R Euastacus maidae Australia: Queensland
- R Euastacus monteithorum Australia: Queensland
- R Euastacus robertsi
  Australia: Queensland
- R Euastacus setosus Australia: Queensland
- R Euastacus urospinosus Australia: Queensland

#### Family COENOBITIDAE

R Birgus latro
Coconut Crab
(Indo-Pacific)

# Family PINNOTHERIDAE

K Parapinnixa affinis
Californian Bay Pea Crab
USA

#### Class INSECTA

# Order THYSANURA

#### Family MACHILIDAE

- I Machiloides heteropus Hawaiian Long-palp Bristletail USA: Hawaiian Islands
- Machiloides perkinsi
   Perkin's Club-palp Bristletail
   USA: Hawaiian Islands

#### Order COLLEMBOLA

# Family NEANURIDAE

- I Acanthanura dendyi Australia: Tasmania
- I Acanthanura sp.
  Australia: Tasmania
- I Megalanura tasmaniae Australia: Tasmania
- I Womersleymeria bicornis Australia: Tasmania
- I Womersleymeria sp.1 Australia: Tasmania
- I Womersleymeria sp.2 Australia: Tasmania

# Order EPHEMEROPTERA

#### Family SIPHLONURIDAE

- I Ameletus falsus False Mayfly USA
- I Isonychia diversa
  Diverse Mayfly
  USA
- R Tasmanophlebia lacus-coerulei
  Large Blue Lake Mayfly
  Australia

#### Family BAETIDAE

I Heterocleon berneri
Berner's Two-winged Mayfly
USA

#### Family OLIGONEURIIDAE

- I Homoeoneuria cahabensis Cahaba Sand-filtering Mayfly USA
- I Homoeoneuria dolani
  Blackwater Sand-filtering Mayfly
  USA

### Family HEPTAGENIIDAE

I Pseudirion meridionalis
Meridion Blackwater Mayfly
USA

#### Family BEHNINGIIDAE

I Dolania americana
American Sand-burrowing Mayfly
USA

#### Family EPHEMERIDAE

- I Ephemera compar Colorado Burrowing Mayfly USA
- I Ephemera triplex
  West Virginia Burrowing Mayfly
  USA

#### Family EPHEMERELLIDAE

- I Ceratella frisoni Frison's Mayfly USA
- I Ceratella spiculosa Spicluose Mayfly USA
- I Ephemerella argo Argo Mayfly USA

#### Family CAENIDAE

I Brachycercus flavus Yellow Mayfly USA

#### Order ODONATA

#### Family AMPHIPTERYGIDAE

I Amphipteryx agrioides
 Belize; El Salvador, Guatemala; Honduras;
 Mexico

# Family CHLOROCYPHIDAE

I Rhinocypha hageni Philippines: Jolo

- I Rhinocypha latimaculata Philippines: Tawi Tawi
- R Rhinocypha ogasawarensis Japan: Ogasawara
- R Rhinocypha uenoi Japan: Iriomote

# Family CALOPTERYGIDAE

- R Calopteryx angustipennis USA
- E Calopteryx syriaca Jordan; Syria; Turkey
- I Hetaerina rudis Guatemala; Mexico

## Family SYNLESTIDAE

- R Chlorolestes apricans
  South Africa: eastern Cape
- R Chlorolestes draconicus South Africa
- R Ecchlorolestes nylephtha South Africa
- R Ecchlorolestes peringueyi
  South Africa
- V Phylolestes ethelae Dominican Republic

## Family LESTIDAE

R Indolestes boninensis Japan: Ogasawara

#### Family MEGAPODAGRIONIDAE

- E Amanipodagrion gilliesi Tanzania
- I Heteragrion eboratum Guatemala; Honduras
- I Heteragrion tricellulare Guatemala; Mexico
- I Hypolestes clara Jamaica
- I Hypolestes trinitatis Cuba
- I Paraphlebia zoe Mexico
- R Rhipidolestes okinawanus Japan: Okinawa
- I Thaumatoneura inopinata Costa Rica; Panama

## Family HEMIPHLEBIIDAE

R Hemiphlebia mirabilis Australia

## Family COENAGRIONIDAE

- I Aciagrion rarum Angola
- I Argiagrion leoninum Sierra Leone
- E Argiocnemis solitaria Mauritius
- I Argiocnemis umbargae Cameroon
- R Boninagrion ezoin
  Japan: Ogasawara
- I Ceriagrion mourae Mozambique
- V Coenagrion mercuriale
  Southern Damselfly
  ? Albania; Algeria; Austria; Belgium;
  Bulgaria?; Czech Republic?; France; Germany;
  Hungary?; Italy; Liechtenstein; Luxembourg;
  Moldova?; Morocco; Netherlands; Portugal;
  Romania?; Slovakia?; Spain; Switzerland;
  Tunisia; Ukraine?; United Kingdom;
  Yugoslavia?
- I Enallagma camerunense
  Cameroon
- I Enallagma polychromaticum South Africa
- V Enallagma recurvatum
  Barrens Bluet Damselfly
  USA
- E Ischnura gemina
  San Francisco Forktail Damselfly
  USA
- I Megalagrion adytum
  Adytum Damselfly
  USA: Hawaiian Islands
- I Megalagrion leptodemas Leptodemas Damselfly USA: Hawaiian Islands
- I Megalagrion nigrohamatum Nigrohamatum Damselfly USA: Hawaiian Islands
- I Megalagrion nigrolineatum
  Black-lined Damselfly
  USA: Hawaiian Islands (Oahu)

- I Megalagrion oahuense
  Oahu Damselfly
  USA: Hawaiian Islands (Oahu)
- I Megalagrion oceanicum
  Oceanic Damselfly
  USA: Hawaiian Islands (Oahu)
- E Megalagrion pacificum
  Pacific Damselfly
  USA: Hawaiian Islands
- I Megalagrion xanthomelas Orange-black Damselfly USA: Hawaiian Islands
- E Mortonagrion hirosei Japan
- V Nehalennia pallidula USA
- K Pseudagrion quadrioculatum Zaire

## Family PLATYCNEMIDIDAE

- I Metacnemis angusta South Africa
- E Platycnemis mauriciana Mauritius

#### Family PLATYSTICTIDAE

- I Palaemnema chiriquita Costa Rica
- I Palaemnema gigantula Costa Rica
- I Palaemnema melanota Costa Rica
- I Palaemnema paulicoba Mexico
- I Palaemnema reventazoni
  Costa Rica

## Family PSEUDOSTIGMATIDAE

- V Mecistogaster asticta Brazil
- E Mecistogaster pronoti
  Brazil

#### Family EPIOPHLEBIIDAE

V Epiophlebia laidlawi Relict Himalayan Dragonfly India; Nepal

## Family AESHNIDAE

- K Acanthaeshna victoria Australia
- R Aeshna meruensis Tanzania
- R Aeshna persephone USA
- I Aeshna viridis
  Austria; Czech Republic?; Denmark; Estonia?;
  Finland; Germany; Hungary; Latvia?;
  Lithuania?; Netherlands; Poland; Russia;
  Slovakia?; Sweden; Yugoslavia?
- I Aeshna williamsoniana Mexico
- V Cephalaeschna acutifrons India
- R Oligoaeschna kunigamiensis Japan: Okinawa

## Family GOMPHIDAE

- R Asiagomphus yayeyamensis Japan: Yayeyama
- V Burmagomphus sivalikensis India
- I Cornigomphus guineensis Equatorial Guinea
- I Diaphlebia pallidistylus Costa Rica
- I Epigomphus camelus Costa Rica
- I Epigomphus clavatus Guatemala
- I Epigomphus crepidus Mexico
- I Epigomphus paulsoni Mexico
- I Epigomphus subsimilis Costa Rica
- I Epigomphus verticornis Costa Rica
- K Erpetogomphus lampropeltis USA
- R Gomphurus consanguis
  Cherokee Clubtail Dragonfly
  USA
- R Gomphurus lynnae USA

- R Gomphurus modestus Gulf Clubtail USA
- R Gomphus diminutus
  Diminutive Clubtail
  USA
- R Gomphus graslini France; Spain
- R Gomphus hodgesi Hodges' Clubtail USA
- I Gomphus sandrius
  Tennessee Clubtail Dragonfly
  USA
- R Gomphus septima
  Septima's Clubtail Dragonfly
  USA
- R Hylogomphus geminatus Twin-Striped Clubtail USA
- R Hylogomphus parvidens USA
- I Isomma hieroglyphicum Madagascar
- R Leptogomphus yayeyamensis Japan: Ishigaki, Iriomote
- R Onychogomphus assimilis
  Armenia; Azerbaijan; Georgia; Turkey
- E Onychogomphus macrodon Israel; Jordan; Turkey
- R Ophiogomphus acuminatus USA
- V Ophiogomphus anomalus Canada: USA
- E Ophiogomphus cecilia

  Austria; Belarus?; Bulgaria; China; Czech
  Republic; Denmark; Estonia?; Finland; France;
  Germany; Hungary; Italy; Latvia?; Lithuania?;
  Luxembourg; Moldova?; Portugal; Romania;
  Russia; Slovakia; Sweden; Switzerland;
  Turkey?; Ukraine?
- V Ophiogomphus howei
  Howe's Midget Snaketail Dragonfly
  USA
- R Ophiogomphus incurvatus USA
- R Paragomphus sinaiticus Egypt; Niger; Oman; Saudi Arabia; Sudan

- R Progomphus bellei
  Belle's Sand Clubtail
  USA
- I Progomphus risi Mexico
- V Stylurus potulentus Yellow-sided Clubtail USA
- R Stylurus townesi
  Bronze Clubtail Dragonfly
  USA

## Family PETALURIDAE

K Petalura pulcherrima Australia

# Family CORDULEGASTERIDAE

- E Cordulegaster mzymtae
  Armenia; Azerbaijan; Georgia; Russia?;
  Turkey
- R Chlorogomphus iriomotensis Japan: Iriomote
- E Zoraena sayi
  Florida Spiketail Dragonfly
  USA

#### Family CORDULIIDAE

- I Antipodochlora braueri New Zealand
- V Austrocordulia leonardi
  Australia
- R Hemicordulia ogasawarensis Japan: Ogasawara
- R Hemicordulia okinawensis Japan: Okinawa, Amami
- I Libellulosoma minuta Madagascar
- R Macromia ishidai Japan: Yayeyama
- R *Macromia kubokaiya* Japan: Okinawa
- R Macromia margarita USA
- R Macromia splendens
  Shining Macromia Dragonfly
  France; Portugal; Spain
- R Macromia urania Japan: Yayeyama

- V Oxygastra curtisii
   Orange-spotted Emerald
   Belgium; France; Germany; Italy; Morocco;
   Netherlands; Portugal; Spain; Switzerland;
   United Kingdom
- R Somatochlora brevicincta Canada
- R Somatochlora calverti Calverts' Emerald USA
- E Somatochlora hineana Ohio Emerald Dragonfly USA
- R Somatochlora incurvata Canada; USA
- R Somatochlora margarita
  Big Thicket Emerald Dragonfly
  USA
- R Somatochlora ozarkensis USA
- V Williamsonia lintneri
  Banded Bog Skimmer Dragonfly
  USA

#### Family LIBELLULIDAE

- K Aethiothemis watuliki Congo
- K Allorhizucha campioni Sierra Leone
- K Anectothemis apicalis
  Zaire
- R Boninthemis insularis Japan: Ogasawara
- E Brachythemis fuscopalliata Iraq; Israel; Turkey
- I Brachythemis liberiensis Guinea-Bissau; Liberia
- K Congothemis longistyla Zaire
- I Leucorrhinia albifrons
  Austria; Belarus?; Estonia?; Finland; France;
  Germany; Kazakhstan?; Latvia?; Lithuania?;
  Netherlands; Norway; Poland; Russia; Sweden;
  Switzerland; Ukraine?

I Leucorrhinia caudalis

Austria; Belarus?; Belgium; Czech Republic?; Estonia?; Finland; France; Germany; Hungary; Latvia?; Lithuania?; Netherlands; Norway; Poland; Russia; Sweden; Ukraine?; Yugoslavia?

- E Libellula angelina Japan
- K Libellula jesseana Purple Chaser USA
- R Lyriothemis tricolor Japan: Iriomote
- V Monardithemis flava Angola; Zambia
- V Orthetrum rubens South Africa
- I Palpopleura albifrons Gabon
- I Trithemis hartwigi Equatorial Guinea
- I Trithemis nigra
  São Tomé and Príncipe: Príncipe
- V Urothemis luciana South Africa
- K Urothemis thomasi
   Ethiopia; Oman; Saudi Arabia; Somalia

#### Order BLATTARIA

#### Family BLATTIDAE

I Aspiduchus cavernicola
Tuna Cave Roach
Puerto Rico

#### Order MANTODEA

#### Family MANTIDAE

E Apteromantis aptera Spain

## Order GRYLLOBLATTARIA

#### Family GRYLLOBLATTIDAE

V Grylloblatta chirurgica Mount St. Helens' Grylloblattid USA

## Order ORTHOPTERA

## Family STENOPELMATIDAE

- I Ammopelmatus kelsoensis Kelso Jerusalem Cricket USA
- I Ammopelmatus muwu
  Port Conception Jerusalem Cricket
  USA
- V Deinacrida carinata
  Herekopare Island Weta
  New Zealand
- V Deinacrida fallai Poor Knights Weta New Zealand
- V Deinacrida heteracantha Wetapunga New Zealand
- V Deinacrida parva Kaikoura Weta New Zealand
- V Deinacrida rugosa Stephens Island Weta New Zealand
- V Deinacrida sp.
  Mahoenui Giant Weta
  New Zealand
- I Deinacrida tibiospina
  Nelson Alpine Weta
  New Zealand
- E Hemiandrus sp.
  Tusked Weta
  New Zealand
- E Hemidaina ricta
  Banks Peninsula Weta
  New Zealand
- I Stenopelmatus cahuilaensis Coachella Valley Jerusalem Cricket USA
- I Stenopelmatus navajo Navajo Jerusalem Cricket USA

# Family RHAPHIDOPHORIDAE

- I Daihinibaenetes arizonensis
  Arizona Giant Sand Treader Cricket
  USA
- I Macrobaenetes kelsoensis Kelso Giant Sand Treader Cricket USA

- I Macrobaenetes valgum
  Coachelia Giant Sand Treader Cricket
  USA
- I Pristoceuthophilus sp. Samwell Cave Cricket USA
- I Tasmanoplectron isolatum Australia: Tasmania
- I Utabaenetes tanneri
  Tanner's Black Camel Cricket
  USA

## Family TETTIGONIIDAE

- R Austrosaga spinifer
  Australia: Western Australia
- V Baetica ustulata Spain
- I Banza nihoae
   Nihoa Banza Conehead Katydid
   USA: Hawaiian Islands
- I Belocephalus micanopy
  Big Pine Key Conehead Katydid
  USA
- I Belocephalus sleighti
  Keys Short-winged Conehead Katydid
  USA
- I Conocephaloides remotus Remote Conehead Katydid USA: Hawaiian Islands
- R Hemisaga elongata
  Australia: Northern Territory
- R Hemisaga lucifer
  Australia: Western Australia
- R Hemisaga vepreculae Australia: Western Australia
- I Idiostatus middlekaufi Middlekauf's Shieldback Katydid USA
- R Isophya harzi Carpathian Basin
- R Ixalodectes flectocercus Australia: Western Australia
- R Kawanphila pachomai Australia: Western Australia
- R Metrioptera domogledi Carpathian Basin
- R Nanodectes bulbicercus Australia: South Australia

- I Neduba longipennis Santa Monica Shieldback Katydid USA
- E Onconotus servillei Carpathian Basin
- R Pachysaga munggai
  Australia: Western Australia
- R Pachysaga strobila Australia: Western Australia
- R Phasmodes jeeba Australia: Western Australia
- R Psacadonotus insulanus Australia: Kangaroo Island
- R Psacadonotus seriatus Australia: Western Australia
- V Saga pedo
  Predatory Bush Cricket
  ?Armenia; Austria; Azerbaijan?; Bulgaria;
  China?; Czech Republic; France; Georgia;
  Germany?; Hungary; Italy; Kazakhstan;
  Kyrgyzstan; Romania; Russia; Slovakia; Spain;
  Switzerland; Tajikistan; Turkmenia; Ukraine;
  Uzbekistan; Yugoslavia
- R Throscodectes xederoides
  Australia: Western Australia
- R Throscodectes xiphos
  Australia: Western Australia
- R Windbalea viride Australia: Western Australia
- R Zaprochilus ninae Australia: New South Wales

## Family GRYLLOTALPIDAE

I Gryllotalpa major Prairie Mole Cricket USA

## Family GRYLLIDAE

- I Caconemobius howarthi Howarth's Cave Cricket USA: Hawaiian Islands
- I Caconemobius schauinslandi Schauinsland's Bush Cricket USA: Hawaiian Islands
- I Caconemobius varius
  Kaumana Cave Cricket
  USA: Hawaiian Islands

- I Cycloptilum irregularis Keys Scaly Cricket USA
- I Leptogryllus deceptor
  Oahu Deceptor Bush Cricket
  USA: Hawaiian Islands
- I Oecanthus laricis Laricis Tree Cricket USA
- I Thaumatogryllus cavicola Volcanoes Cave Cricket USA: Hawaiian Islands
- I Thaumatogryllus variegatus
  Kauai Thin-footed Bush Cricket
  USA: Hawaiian Islands

## Family EUMASTACIDAE

- I Eumorsea pinaleno
  Pinaleno Monkey Grasshopper
  USA
- I Psychomastatix deserticola
  Desert Monkey Grasshopper
  USA

#### Family ACRIDIDAE

- I Acrolophitus pulchellus Idaho Point-headed Grasshopper USA
- I Appalachia arcena Michigan Bog Grasshopper
- I Chloaeltis aspasma
  Siskiyou Chloealtis Grasshopper
  USA
- R Chortippus acroleucus Carpathian Basin
- R Miramella irena Carpathian Basin
- R Odontopodisma montana Carpathian Basin
- R Odontopodisma rubripes Hungary
- R Podismopsis transsylvanica Carpathian Basin
- I Schayera baiulus (Calliptamus baiulus) Australia: Tasmania
- I Spharagemon superbum USA

- R Stenobothrodes eurasius Carpathian Basin
- R Zubovskia banatica Carpathian Basin

## Family TETRIGIDAE

- R Bienkotetrix transsylvanicus Carpathian Basin
- I Tetrix sierrana
  Sierra Pygmy Grasshopper
  USA
- I Tettigidea empedonepia Torreya Pygmy Grasshopper USA

## Order DERMAPTERA

# Family LABIDURIDAE

E Labidura herculeana Saint Helena Earwig Saint Helena

## Order PLECOPTERA

## Family NEMOURIDAE

- I Lednia tumana
  Meltwater Stonefly
  USA
- I Nemours wahkeena Wahkeena Falls Flightless Stonefly USA

## Family NOTONEMOURIDAE

- I Kimminsoperla biloba Australia: Tasmania
- I Kimminsoperla williamsi Australia: Tasmania

## Family CAPNIIDAE

I Capnia lacustra
Lake Tahoe Benthic Stonefly
USA

## Family LEUCTRIDAE

I Leuctra szczytkoi
Schoolhouse Springs Stonefly
USA

## Family TAENIOPTERYGIDAE

I Taeniopteryx starki
Leon River Stonefly
USA

#### Family PERLIDAE

- I Beloneuria georgiana Georgia Stonefly USA
- I Beloneuria jamesae Cheaha Stonefly USA
- I Hansonoperla appalachia
  Hanson's Appalachian Stonefly
  USA

## Family PELTOPERLIDAE

I Soliperla fenderi Fender's Stonefly USA

## Family EUSTHENIIDAE

- E Eusthenia nothofagi
  Otway Stonefly
  Australia
- I Eusthenia reticulata
  Australia: Tasmania

# Family GRIPOPTERYGIDAE

- R Leptoperla cacuminis

  Mount Kosciusko Wingless Stonefly

  Australia
- R Riekoperla darlingtoni

  Mount Donna Buang Wingless Stonefly

  Australia

## Order ZORAPTERA

## Family ZOROTYPIDAE

I Zorotypus swezeyi
Swezey's Zoroapteran
USA: Hawaiian Islands

#### Order ANOPLURA

#### Family HAEMATOPINIDAE

E Haematopinus oliveri
Pygmy Hog Sucking Louse
India

#### Order HEMIPTERA

## Family BELOSTOMATIDAE

I Belostoma saratogae Saratoga Springs Bug USA

## Family NAUCORIDAE

- E Ambrysus amargosus Ash Meadows Bug USA
- I Pelocoris shoshone Amargosa Bug USA

# Family MESOVELIDAE

I Cavaticovelia aaa
Aaa Water Treader Bug
USA

## Family MACROVELIIDAE

I Oravelia pege
Dry Creek Cliff Strider Bug
USA

## Family MIRIDAE

- I Cyrtopeltis phyllostegiae Mirid Leaf Bug USA: Hawaiian Islands
- I Kalania hawaiiensis
  Lanai Leaf Bug
  USA: Hawaiian Islands

#### Family REDUVIDAE

- I Empicoris pulchrus
  Pulchrus Thread Bug
  USA: Hawaiian Islands
- I Nesidiolestes ana
  Ana Wingless Thread Bug
  USA: Hawaiian Islands
- I Nesidiolestes insularis
  Mount Tantalus Wingless Thread Bug
  USA: Hawaiian Islands
- I Nesidiolestes roberti
  Robert's Wingless Thread Bug
  USA: Hawaiian Islands
- I Nesidiolestes selium Selium Wingless Thread Bug USA: Hawaiian Islands
- I Siacella smithi
  Smith's Reduviid Bug
  USA: Hawaiian Islands

#### Family LYGAEIDAE

I Metrarga obscura

Mauna Loa Seed Bug
USA: Hawaiian Islands

- I Neseis alternatusKauai Band-legged Seed BugUSA: Hawaiian Islands
- I Neseis haleakalae
   Mount Haleakala Seed Bug
   USA: Hawaiian Islands
- I Nesocryptias villosa
  Villosan Flightless Seed Bug
  USA: Hawaiian Islands
- I Nysius frigatensis
  French Frigate Shoal Seed Bug
  USA: Hawaiian Islands
- I Nysius neckerensis
  Necker Goosefoot Seed Bug
  USA: Hawaiian Islands
- I Nysius nihoae Nihoae Seed Bug USA: Hawaiian Islands
- I Nysius sulfusus
  Necker Bunchgrass Seed Bug
  USA: Hawaiian Islands
- I Oceanides bryani
  Bryan's Seed Bug
  USA: Hawaiian Islands
- I Oceanides perkensi
  Perkin's Oceanides Seed Bug
  USA: Hawaiian Islands
- I Oceanides rugosiceps
  Rough-headed Seed Bug
  USA: Hawaiian Islands

## Family RHOPALIDAE

- I Ithamar annectans
  Annectans Bug
  USA: Hawaiian Islands
- I Ithamar hawaiiensis
  Hawaiian Bug
  USA: Hawaiian Islands

## Order HOMOPTERA

## Family CIXIIDAE

- I Oliarus consimilis
  Kauai Parti-coloured Planthopper
  USA: Hawaiian Islands
- I Oliarus discrepans
  Wild Cotton Planthopper
  USA: Hawaiian Islands
- I Oliarus lanaiensis Lanai Planthopper USA: Hawaiian Islands

- I Oliarus lihue
  Lihue Planthopper
  USA: Hawaiian Islands
- I Oliarus myoporicola
  Barber's Point Planthopper
  USA: Hawaiian Islands

## Family DELPHACIDAE

- I Nesorestias filicicola

  Mt Tantalus Shortwing Fern Planthopper
  USA: Hawaiian Islands
- I Nesosydne acuta
  Iao Valley Planthopper
  USA: Hawaiian Islands
- I Nesosydne bridwelli
  Bridewell's Planthopper
  USA: Hawaiian Islands
- I Nesosydne cyrtandrae Nahiku Planthopper USA: Hawaiian Islands
- I Nesosydne cyrtandricola Glenwood Planthopper USA: Hawaiian Islands
- I Nesosydne kuschei Kusche's Planthopper USA: Hawaiian Islands
- I Nesosydne leahi
  Diamond Head Planthopper
  USA: Hawaiian Islands
- I Nesosydne longipes
  Long-footed Planthopper
  USA: Hawaiian Islands
- I Nesosydne sulcata Keanae Planthopper USA: Hawaiian Islands

## Family CICADIDAE

- V Magicicada cassini Cassini Periodical Cicada USA
- V Magicicada septendecim Decim Periodical Cicada Canada
- V Magicicada septendecula Decula Periodical Cicada USA

I Maoricicada myersi Myers' Cicada New Zealand

## Family TETTIGARCTIDAE

I Tettigarcta tormentosa Australia: Tasmania

## Family CICADELLIDAE

I Felexamia rubranura
Red-veined Prairie Leafhopper
USA

## Family APHIDIDAE

I Ceriferella leucopogonis Australia: Tasmania

# Order NEUROPTERA

## Family ITHONIDAE

I Oliarces clara
USA: California, Hawaiian Islands

## Family HEMEROBIIDAE

- I Nesothauma halakalae Haleakala Spongillafly USA: Hawaiian Islands
- I Pseudopsectra cookeorum Cooke's Spongillafly USA: Hawaiian Islands
- I Pseudopsectra lobipennis
  Lobe-wing Spongillafly
  USA: Hawaiian Islands
- I Pseudopsectra swezeyi Swezey's Spongillafly USA: Hawaiian Islands
- I Pseudopsectra usingeri
  Usinger's Spongillafly
  USA: Hawaiian Islands

#### Family MYRMELEONTIDAE

I Eidoleon perjurus

Molokai Antlion

USA: Hawaiian Islands

# Order COLEOPTERA

# Family CARABIDAE

- I Agonum belleri Beller's Ground Beetle USA
- E Aplothorax burchelli Saint Helena

V Carabus intricatus
Blue Ground Beetle

Albania; Belgium; Bulgaria; Czech Republic; Denmark; France; Germany; Greece; Hungary; Italy: including Sicily; Netherlands; Poland; Romania; Slovakia?; Sweden; Switzerland; United Kingdom; Yugoslavia

- E Carabus olympiae France; Italy
- V Elaphrus viridis
  Delta Green Ground Beetle
  USA
- V Mormolyce phyllodes Ghost Walker Beetle Malaysia
- E Rhadine persephone
  Tooth Cave Ground Beetle
  USA

## Family CICINDELIDAE

- I Cicindela arenicola
  Idaho Dunes Tiger Beetle
  USA
- I Cicindela cazieri
  Cazier's Tiger Beetle
  USA
- E Cicindela columbica
  Columbia River Tiger Beetle
  USA
- I Cicindela marginata
  Tiger Beetle
  USA
- I Cicindela marginipennis
  Cobblestone Tiger Beetle
  USA
- I Cicindela puritana
  Puritan Tiger Beetle
  USA

#### Family HALIPLIDAE

- I Brychius hungerfordi Hungerford's Crawling Water Beetle USA
- I Haliplus nitens
  Disjunct Crawling Water Beetle
  USA

#### Family DYTISCIDAE

I Acilius duvergeri
Algeria; Italy; Morocco; Portugal; Spain

- I Agabus clypealis Denmark; Germany; Poland; Russia; Sweden
- E Agabus discicollis Ethiopia
- E Agabus hozgargantae Spain: Andalucia
- I Agabus rumppi
  Death Valley Agabus Diving Beetle
  USA
- I Aglymbus bimaculatus Brazil
- I Aglymbus bromeliarum Trinidad and Tobago
- I Colymbetes piceus
  Egypt; Iran; Iraq; Saudi Arabia
- E Deronectes aljibensis Spain: Andalucia
- I Deronectes costipennis Portugal; Spain
- I Deronectes depressicollis Spain: Andalucia
- I Deronectes ferrugineus
  Portugal
- I Deronectes wewalkai Spain
- I Desmopachria conchramis
  Fig Seed Diving Beetle
  USA
- R Dytiscus latissimus Denmark; Finland; Germany; Poland; Siberia; Sweden
- R Graptodytes delectus Spain: Canary Islands
- I Haideoporus texanus Texas Cave Beetle USA
- I Hydaticus decorus
  Egypt; Saudi Arabia; Sudan; Yemen
- I Hydaticus okalehubyi Indonesia: Irian Jaya
- I Hydroporus elusivus Elusive Diving Beetle USA
- I Hydroporus folkertsi
  Folkert's Diving Beetle
  USA

I	Hydroporus hirsutus Woolly Diving Beetle	I	Lacconectus javanicus Indonesia: Java
I	USA  Hydroporus humilis	I	Lacconectus laccophiloides Philippines
	Egypt: Sinai	I	Lacconectus minutus
I	Hydroporus leechi Leech's Skyline Diving Beetle USA	I	Indonesia: Sumatra  Lacconectus muluensis
			Malaysia: Sarawak
Ι	Hydroporus mariannae Israel	I	Lacconectus oceanicus Indonesia: Mentawai Islands
I	Hydroporus oasis Egypt	I	Lacconectus pulcher Malaysia: Sabah
Ι	Hydroporus productus Algeria; Spain	I	Lacconectus punctatus Viet Nam
I	Hydroporus spangleri Spangler's Diving Beetle USA	I	Lacconectus punctipennis Indonesia: Bali, Java
I	Hydroporus sulphurius Sulphur Springs Diving beetle	I	Lacconectus ritsemae Indonesia: Java
I	USA  Hydroporus utahensis	I	Lacconectus sabahensis Malaysia: Sabah
•	Utah Diving Beetle USA	E	Meladema imbricata Spain: Canary Islands
E	Hydrotarsus compunctus Spain: Canary Islands	I	Meladema lanio Portugal: Madeira
V	Hydrotarsus pilosus Spain: Canary Islands	I	Platynectes buruensis Indonesia: Buru
I	Hygrotus curvipes Curved-foot Diving Beetle	I	Platynectes decastigma Indonesia: Irian Jaya, Moluccas; Philippines?
I	USA  Hygrotus diversipes	I	Pleurodytes dineutoides Indonesia; Malaysia
	Narrow-foot Diving Beetle USA	R	Potamonectes canariensis Spain: Canary Islands
I	Hygrotus fontinalis Travertine Band-thigh Diving Beetle USA	R	Potamonectes cazorlensis Spain: Andalucia
I	Hygrotus sylvanus Sylvan Diving Beetle	I	Potamonectes insignis Egypt; Saudi Arabia
	USA	I	Potamonectes lanceolatus Egypt; Saudi Arabia
I	Hyphydrus dani Indonesia: Irian Jaya	I	Potamonectes walkeri
I	Lacconectus birmanicus Myanmar	I	Egypt  Rhantus crypticus
I	Lacconectus corayi		Ecuador
I	Singapore  Lacconectus heinertzi	E	Rhantus limbatus Argentina; Brazil; Uruguay
•	Thailand		

- R Rhithrodytes agnus Portugal
- I Sandracottus baeri
  Malaysia: Sabah; Philippines: Balabac
- I Sandracottus bizonatus Malaysia: Sabah
- I Sandracottus chevrolati
  Indonesia: Sumbawa, Timor
- I Sandracottus maculatus Indonesia: Java; Malaysia: Penang
- I Sandracottus rotundatus Indonesia: Sulawesi

## Family GYRINIDAE

I Spanglerogyrus albiventris
Red Hills Unique Whirligig Beetle
USA

## Family HYDRAENIDAE

- I Gymnochthebius maureenae Maureen's Minute Moss Beetle USA
- I Hydraena maureenae Maureen's Moss Beetle USA
- I Limnebius aridus
  Animas Minute Moss Beetle
  USA
- I Limnebius texanus
  Texas Minute Moss Beetle
  USA
- I Limnebius utahensis
  Utah Minute Moss Beetle
  USA
- I Ochthebius crassalus
  Wing-shoulder Minute Moss Beetle
  USA
- I Ochthebius putnamensis
  Indiana Minute Moss Beetle
  USA
- I Ochthebius recticulus
  Wilbur Springs Minute Moss Beetle
  USA

## Family LEIODIDAE

I Glacicavicola bathysciodes
Blind Cave Beetle
USA

## Family SILPHIDAE

E Nicrophorus americanus American Burying Beetle Canada; USA

## Family HYDROPHILIDAE

- I Chaetarthria leechi Leech's Water Scavenger Beetle USA
- I Chaetarthria utahensis
  Utah Water Scavenger Beetle
  USA
- I Cymbiodyta arizonica
  Arizona Water Scavenger Beetle
  USA
- I Hydrochara rickseckeri
  Ricksecker's Water Scavenger Beetle
  USA
- I Paracymus seclusus
  Seclusive Water Scavenger Beetle
  USA

## Family LUCANIDAE

- E Apterocychus honoluluensis Kauai Flightless Stag Beetle USA: Hawaiian Islands
- V Dorcus auriculatus New Zealand
- V Dorcus ithaginis New Zealand

## Family TROGIDAE

V Trox howelli Caracara Commensal Scarab Beetle USA

#### Family GEOTRUPIDAE

V Typhaeus hiostius Italy: Sardinia

## Family SCARABAEIDAE

- I Aegialia concinna Ciervo Scarab Beetle USA
- I Aegialia crescenta
  Cresent Dune Scarab Beetle
  USA
- I Aegialia haroyi Hardy's Scarab Beetle USA

- I Aegialia magnifica Large Scarab Beetle USA
- I Anomala exigua
  Exiguous Scarab Beetle
  USA
- I Anomala eximia Archbold Scarab Beetle USA
- I Anomala tibialis
  Tibial Scarab Beetle
  USA
- I Aphodius fordi Ford's Beetle USA
- I Aphodius troglodytes
  Tortoise Commensal Scarab Beetle
  USA
- V Ataenius superficialis
  Big Pine Key Dung Beetle
  USA
- E Ataenius woodruffi
  Woodruff's Dung Beetle
  USA
- I Copris gopheri
  Tortoise Commensal Scarab Beetle
  USA
- I Cyclocephala miamiensis
  Miami Roundhead Scarab Beetle
  USA
- I Glaresis arenata
  Kelso Dune Scarab Beetle
  USA
- I Gronocarus multispinosus Spiny Florida Sandhill Scarab Beetle USA
- I Lichnanthe albopilosa
  White Sand Bear Scarab Beetle
  USA
- I Lichnanthe ursina
  Pacific Sand Bear Scarab Beetle
  USA
- I Mycotrupes pedester
  Scrub Island Burrowing Scarab Beetle
  USA
- I Onthophagus polyphemi
  Tortoise Commensal Scarab Beetle
  USA

K Oryctes chevrolati Réunion

Osmoderma eremita

 $\mathbf{F}$ 

- Hermit Beetle
  Austria; Belarus?; Belgium; Czech Republic;
  Denmark; Estonia?; Finland; France; Germany;
  Greece; Hungary; Italy; Latvia; Liechtenstein;
  Lithuania?; Moldova?; Netherlands; Norway;
  Poland; Russia; Slovakia; Spain; Sweden;
  Switzerland; Ukraine; Yugoslavia
- I Peltotrupes youngi
  Ocala Burrowing Scarab Beetle
  USA
- I Polylamina pubescens
  Woody Gulf Dune Scarab Beetle
  USA
- I Polyphylla anteronivea
  Saline Valley Snow-front Scarab
  USA
- I Polyphylla avittata
  Spotted Warner Valley Dunes Scarab
  USA
- I Polyphylla barbata
  Barbate Scarab Beetle
  USA
- I Polyphylla nubila
  Atascodera Scarab Beetle
  USA
- V Prodontria lewisi Cromwell Chafer New Zealand
- I Pseudocotalpa giulianii Giuliani's Dune Scarab Beetle USA
- I Serica frosti
  Frost's Spring Scarab Beetle
  USA
- I Serica tantula
  Tantula Scarab Beetle
  USA
- I Trigonopelastes floridana
  Scrub Palmetto Flower Scarab Beetle
  USA

# Family BUPRESTIDAE

Buprestis splendens

Goldstreifiger
Albania; Austria; Belarus?; Denmark?;
Finland; Greece; Poland?; Russia?; Spain;
Sweden?; Yugoslavia?

E

## Family ELMINTHIDAE

- I Atractelmis wawona
  Wawawona Riffle Beetle
  USA
- I Cylloepus parkeri
  Parker's Riffle Beetle
  USA
- I Dubiraphia brunnescens
  Brownish Riffle Beetle
  USA
- I Dubiraphia giulianii
  Giuliani's Riffle Beetle
  USA
- I Dubiraphia parva Little Riffle Beetle USA
- I Dubiraphia robusta Robust Riffle Beetle USA
- I Heterelmis stephani Stephan's Riffle Beetle USA
- I Microcylloepus browni
  Brown's Riffle Beetle
  USA
- I Optioservus browni
  Brown's Riffle Beetle
  USA
- I Optioservus canus
  Pinnacles Riffle Beetle
  USA
- I Optioservus phaeus Scott Riffle Beetle USA
- I Stenelmis douglasensis
  Douglas Riffle Beetle
  USA
- I Stenelmis gammoni
  Gammon's Riffle Beetle
  USA
- I Zaitzeva thermae
  Warm Spring Riffle Beetle
  USA

## Family PSEPHENIDAE

I Acneus beeri
Beer's False Water Penny Beetle
USA

- I Acneus burnelli
  Burnell's False Water Penny Beetle
  USA
- I Alabamaubria starki
  Stark's False Water Penny Beetle
  USA
- I Dicranopselaphus variegatus
  Variegated False Water Penny Beetle
  USA
- I Psephenus arizonensis Arizona Water Penny Beetle USA
- I Psephenus montanus
  White Mountains Water Penny Beetle
  USA

## Family ELATERIDAE

- V Amychus candezei
  Chatham Island Amychus
  New Zealand: Chatham Island
- V Amychus granulatus Cook Strait Amychus New Zealand
- I Eanus hatchi
  Hatch's Click Beetle
  Canada; USA

#### Family EUCNEMIDAE

I Paleoxenus dohmi
Dohrn's Elegant Eucnemid Beetle
USA

#### Family LAMPYRIDAE

I Micronaspis floridana Florida Intertidal Firefly USA

## Family ANOBIIDAE

I Holcobius pikoensis
Piko Anobiid Beetle
USA: Hawaiian Islands

# Family CUCUJIDAE

E Cucujus cinnaberinus
 Austria; Czech Republic?; Estonia?; Finland;
 Germany; Hungary; Latvia?; Lithuania;
 Norway; Poland; Romania; Russia; Slovakia;
 Sweden; Yugoslavia

## Family TENEBRIONIDAE

I Coelus globosus
Globose Dune Beetle
Mexico; USA

- Ι Coelus gracilis San Joaquin Dune Beetle USA
- R Polposipus herculeanus Frigate Island Giant Tenebrionid Beetle Sevchelles

## Family MELOIDAE

- Ι Lytta hoppingi Hopping's Blister Beetle **USA**
- Ι Lytta inseperata Mojave Desert Blister Beetle **USA**
- Ι Lytta mirifica Anthony Blister Beetle Mexico: USA
- Ι Lytta moesta Moestan Blister Beetle **USA**
- T Lytta molesta Molestan Blister Beetle USA
- Ι Lytta morrisoni Morrison's Blister Beetle USA

#### Family ANTHICIDAE

- Ι Anthicus antiochensis Antioch Dunes Beetle **USA**
- Ι Anthicus sacramento Sacramento Beetle USA

#### Family CERAMBYCIDAE

- E Aeschrithmysus dubautianus USA: Hawaiian Islands
- E Aeschrithmysus swezevi USA: Hawaiian Islands
- E Aeschrithmysus terryi USA: Hawaiian Islands Cerambyx cerdo

E

Cerambyx Longicorn Algeria; Armenia?; Austria; Azerbaijan?; Czech Republic; France; Germany; Georgia?; Hungary; Iran; Moldova?; Morocco; Poland; Spain; Sweden; Switzerland; Tunisia; Turkey?; Ukraine; United Kingdom?

- Ι Dryobius sexnotatus Six-banded Longhorn Beetle **USA**
- K Macrodontia cervicornis Brazil: Peni
- E Morimus funereus ?Belgium; Czech Republic?; Germany?; Hungary; Moldova; Romania; Slovakia?; Ukraine; Yugoslavia
- I Necydalis rudei Rude's Longhorn Beetle USA: Hawaiian Islands
- E Nesithmysus bridwelli USA: Hawaiian Islands
- E Nesithmysus frobesi USA: Hawaiian Islands
- E Nesithmysus haasi USA: Hawaiian Islands
- E Nesithmysus swezevi USA: Hawaiian Islands
- E Rosalia alpina Rosalia Longicom

Algeria; Armenia; Austria; Azerbaijan; Belgium?; Bulgaria; Czech Republic; Denmark?; France; Georgia; Germany; Greece; Hungary; Italy; Iran?; Israel; Jordan?; Lebanon?; Liechtenstein: Morocco: Netherlands; Poland; Portugal; Romania; Russia?; Spain; Sweden; Switzerland; Syria; Tunisia; Ukraine; Yugoslavia

## Family CHRYSOMELIDAE

ĭ Donacia idola Bog Idol Leaf Beetle USA

## Family CURCULIONIDAE

- Anagotus fairburni Flax Weevil New Zealand
- Anagotus stephenensis Stephen's Island Weevil New Zealand
- Anagotus turbotti Turbott's Weevil New Zealand
- $\mathbf{E}$ Deinocossonus nesiotes Oahu Nesiotes Weevil USA: Hawaiian Islands

- I Dysticheus rotundicollis Antioch Dune Weevil USA
- V Gymnopholus lichenifer Lichen Weevil Papua New Guinea
- V Hadramphus spinipennis Coxella Weevil New Zealand: Chatham Is
- V Hadramphus stilbocarpae Knobbled Weevil New Zealand
- E Heteramphus filicum USA: Hawaiian Islands
- V Heterexis seticostatus New Zealand
- V Karocolens pittospori New Zealand
- V Lyperobius huttoni
  Wellington Speargrass Weevil
  New Zealand
- V Megacolabus sculpturatus New Zealand
- R Microcryptorhynchus orientissimus Pitcairn Islands: Henderson Island
- I Miloderes nelsoni Nelson's Weevil USA
- I Miloderes rulieni Rulien's Weevil USA
- I Nesotocus giffordi Gifford's Weevil USA: Hawaiian Islands
- I Nesotocus kauaiensis Kauai Weevil USA: Hawaiian Islands
- I Nesotocus munroi Munro's Weevil USA: Hawaiian Islands
- E Nothaldonis peaci New Zealand
- V Oclandius laeviusculus New Zealand
- I Onchobarus langei
  Lange's El Segundo Dune Weevil
  USA

- I Pentarthrum obscura
  Obscure Weevil
  USA: Hawaiian Islands
- E Pentarthrum pritchardias USA: Hawaiian Islands
- R Rhyncogonus hendersoni
  Pitcairn Islands: Henderson Island
- I Stenotrupis pritchardiae Nihoa Weevil USA; Hawaiian Islands
- I Trigonoscuta brunnotesselata
  Brown-tassel Weevil
  USA
- I Trigonoscuta doyeni Doyen's Dune Weevil USA
- V Unas piceus New Zealand

## Order MECOPTERA

## Family APTEROPANORPIDAE

I Apteropanorpa tasmanica Australia: Tasmania

#### Order DIPTERA

#### Family PSYCHODIDAE

I Nemapalpus nearcticus Sugarfoot Moth fly USA

#### Family MYCETOPHILIDAE

I Arachnocampa tasmaniensis Australia: Tasmania

## Family BLEPHAROCERIDAE

- E Edwardsina gigantea
  Giant Torrent Midge
  Australia
- E Edwardsina tasmaniensis
  Tasmanian Torrent Midge
  Australia: Tasmania

#### Family TABANIDAE

- I Apatalestea rossi
  Ross's Apatalestes Tabanid Fly
  USA
- I Asaphomyia floridensis
  Florida Asaphomyian Tabanid Fly
  USA

- I Asaphomyia texanus
  Texas Asaphomyian Tabanid Fly
  USA
- E Brennania belkini
  Belkin's Dune Tabanid Fly
  Mexico; USA
- I Merycomyia brunnea
  Brown Merycomyian Tabanid Fly
  USA

## Family ACROCERIDAE

I Eulonchus marialiciae
Mary Alice's Small-headed Fly
USA

## Family ASILIDAE

- I Cophura hurdi Antioch Robberfly USA
- I Efferia antiochi
  Antioch Robberfly
  USA
- I Metapogon hurdi Hurd's Robberfly USA

# Family APIOCERIDAE

I Raphiomydas triochilus Valley Mydas Fly USA

## Family EMPIDIDAE

I Chersodromia hawaiiensis Hawaiian Dance Fly USA: Hawaiian Islands

## Family SYRPHIDAE

I Mixogaster delongi Delong's Flower Fly USA

## Family ASTEIIDAE

I Bryania bipunctata
Nihoa Two-spotted Asterid Fly
USA: Hawaiian Islands

## Family EPHYDRIDAE

I Paracoenia calida
Wilber Springs Shore Fly
USA

## Order TRICHOPTERA

# Family RHYACOPHILIDAE

- I Rhyacophila alexandra Alexander's Caddisfly USA
- I Rhyacophila colonus
  Obrien Caddisfly
  USA
- I Rhyacophila fenderi Fender's Caddisfly USA
- I Rhyacophila haddocki Haddock's Caddisfly USA
- I Rhyacophila lineata
  Castle Crags Caddisfly
  USA
- I Rhyacophila mosana Bilobed Caddisfly USA
- I Rhyacophila spinata Spiny Caddisfly USA
- I Rhyacophila unipunctata
  One-spot Caddisfly
  USA

## Family GLOSSOSOMATIDAE

- I Agapetus artesus Artesian Caddisfly USA
- I Agapetus denningi Denning's Caddisfly USA
- I Agapetus medicus Arkansas Caddisfly USA
- I Protoptila arca
  San Marcos Caddisfly
  USA

## Family HYDROPTILIDAE

I Hydroptila decia
Knoxville Micro Caddisfly
USA

- I Neotrichia kitae
  Kite's Micro Caddisfly
  USA
- I Ochrotrichia alsea Alsea Micro Caddisfly USA
- I Ochrotrichia contorta
  Contorted Micro Caddisfly
  USA
- I Ochrotrichia phenosa
  Deschutes Micro Caddisfly
  USA
- I Ochrotrichia provosti
  Provost's Micro Caddisfly
  USA
- I Ochrotrichia vertreesi Vertree's Micro Caddisfly USA
- I Oxyethira florida
  Florida Micro Caddisfly
  USA

## Family PHILOPOTAMIDAE

I Dolophilodes oregona Oregon Caddisfly USA

#### Family STENOPSYCHIDAE

I Stenopsychodes lineata Australia: Tasmania

#### Family POLYCENTROPODIDAE

I Tasmanoplegas spilota Australia: Tasmania

#### Family LIMNEPHILIDAE

- I Apatania tavala
  Cascades Caddisfly
  USA
- I Archaeophylax vernalis Australia: Tasmania
- I Cryptochia excella
  Kings Canyon Caddisfly
  USA
- I Cryptochia neosa
  Blue Mountains Caddisfly
  USA
- I Ecclisomyia bilera
  King's Creek Caddisfly
  USA

- I Farula davisi
  Green Springs Mountain Caddisfly
  USA
- I Farula jewetti
  Mount Hood Caddisfly
  USA
- I Farula reaperi
  Tombstone Prairie Caddisfly
  USA
- I Glyphopsyche missouri Missouri Caddisfly USA
- I Limnephilus alconura Kiamath Caddisfly USA
- I Limnephilus atercus
  Fort Dick Caddisfly
  USA
- I Neothramma andersoni Colombian Gorge Caddisfly USA
- I Oligophlebodes mostbento
  Tombstone Prairie Oligophlebodes
  USA
- I Philocasca oron Clatsop Caddisfly

## Family LEPIDOSTOMATIDAE

- I Lepidostoma fischeri Fischer's Caddisfly USA
- I Lepidostoma goedeni Goeden's Caddisfly USA

#### Family KOKIRIIDAE

- I Taskiria mecubbini Australia: Tasmania
- I Taskropsyche lacustris Australia: Tasmania

#### Family PLECTROTARSIDAE

I Nanoplectrus truchnasi
Australia: Tasmania

## Family SERICOSTOMATIDAE

I Agarodes ziczac
Zigzag Blackwater Caddisfly
USA

## Family ODONTOCERIDAE

I Psilotreta hansoni USA

## Family PHILORHEITHRIDAE

I Ramiheithrus kocinus Australia: Tasmania

# Family LEPTOCERIDAE

- I Ceraclea floridana
  Florida Longhorn Caddisfly
  USA
- I Ceraclea vertreesi
  Vertree's Caddisfly
  USA
- I Oecetis parva
  Little Longhorn Caddisfly
  USA
- I Westriplectes pedderensis Australia: Tasmania

## Order LEPIDOPTERA

## Family HEPIALIDAE

- V Leto venus
  Silver Spotted Ghost Moth
  South Africa
- V Zelotypia stacyi
  Bent Wing Swift Moth
  Australia

## Family GRACILLARIIDAE

- I Petrochroa neckerensis Necker Leaf-miner Moth USA: Hawaiian Islands
- E *Phildoria wilkesiella* USA: Hawaiian Islands

## Family GELECHIDAE

V Kiwaia jeanae New Zealand

#### Family CARPOSINIDAE

I Heterocrossa viridis
Green Carposinid Moth
USA: Hawaiian Islands

#### Family SESIIDAE

I Synanthedon castaneae Chestnut Clearwing Moth USA

## Family TORTRICIDAE

- R Grapholitha edwardsiana San Francisco Tree Lupine USA
- I Spheterista oheoheana
  Ohe Ohe Leaf-roller Moth
  USA: Hawaiian Islands
- I Spheterista pterotropiana
  Green-Banded Ohe Ohe Leaf-roller Moth
  USA: Hawaiian Islands
- I Spheterista reynoldsiana Wallupe Leaf-Roller Moth USA: Hawaiian Islands

## Family COCHYLIDAE

I Carolella busckana Busk's Gall Moth USA

## Family HESPERIIDAE

- R Dalla octomaculata
  Eight-Spotted Skipper
  Costa Rica; Panama
- R Epargyreus antaeus Jamaica
- R Epargyreus spana
  Dominican Republic
- K Euscheman rafflesia Australia
- E Hesperia dacotae
  Dakota Skipper
  Canada; USA
- V Kedestes chaca South Africa
- V Metisella syrinx Bamboo Sylph South Africa
- V Panoquina errans Wandering Skipper Mexico: USA
- I Problema bulenta Rare Skipper USA
- I Syrichtus cribrellum
   Spinose Skipper
   Georgia; Moldavia?; Romania; Russia; Ukraine

K Syrichtus tessellum
 Tessellated Skipper
 ?Armenia; Azerbaijan?; Bulgaria; Georgia?;
 Greece; Iran; Romania?; Russia; Turkey;
 Ukraine; Yugoslavia

V Tsitana dicksoni Dickson's Sylph South Africa

## Family MEGATHYMIDAE

I Stallingsia maculosus Manfreda Giant Skipper Mexico: USA

## Family PAPILIONIDAE

R Archon apollinaris Armenia; Bulgaria; Greece; Iran; Iraq; Israel; Jordan; Lebanon; Romania; Syria; Turkey; Turkmenistan

I Atrophaneura atropos Philippines: Palawan

V Atrophaneura jophon Sri Lankan Rose Sri Lanka

R Atrophaneura luchti Indonesia: Java

K Atrophaneura palu Indonesia: Sulawesi

V Atrophaneura schadenbergi Philippines: Luzon

R Baronia brevicornis Short-horned Baronia Mexico

V Battus zetides
Zetides Swallowtail
Dominican Republic; Haiti

K Bhutanitis ludlowi Ludlow's Bhutan Swallowtail Bhutan: Tashiyangsi Valley

R Bhutanitis mansfieldi
Mansfield's Three-tailed Swallowtail
China: Sichuan, Yunnan

R Bhutanitis thaidina
Chinese Three-tailed Swallowtail
China

V Eurytides iphitas Yellow Kite Swallowtail Brazil V Eurytides marcellinus Jamaican Kite Jamaica

K Graphium aurivilliusi Zaire

K Graphium epaminondas Andamans Swordtail India: Andaman Islands

R Graphium idaeoides
Philippines

V Graphium levassori Comoro Islands

R Graphium meeki
Meek's Graphium
Papua New Guinea: Bougainville; Solomon
Islands

I Graphium megaera Philippines: Palawan

R Graphium mendana
Papua New Guinea: Bougainville; Solomon
Islands

I Graphium procles Malaysia: Sabah

V Graphium sandawanum Philippines: Mindanao

R Graphium stresemanni Indonesia: Moluccas

K Luehdorfia chinensis Chinese Luehdorfia China

I Luchdorfia japonica Japanese Luchdorfia Japan; Taiwan

I Ornithoptera aesacus Indonesia: Obi

E Ornithoptera alexandrae
Queen Alexandra's Birdwing
Papua New Guinea: Popondetta in Northern
Province of New Guinea

I Ornithoptera chimaera
Chimaera Birdwing
Indonesia: Irian Jaya; Papua New Guinea: New
Guinea

V Ornithoptera croesus Indonesia: Moluccas

V Ornithoptera meridionalis Indonesia: Irian Jaya; Papua New Guinea: New Guinea I Ornithoptera paradisea Paradise Birdwing Indonesia: Irian Jaya; Papua New Guinea: New Guinea

I Ornithoptera rothschildi Rothschild's Birdwing

Indonesia: Arfak Mountains in Irian Jaya

K Ornithoptera tithonus Indonesia: Irian Jaya

R Papilio acheron Malaysia: Sabah, Sarawak

R Papilio antimachus African Giant Swallowtail Angola; Benin?; Cameroon; Central African Republic; Congo; Côte d'Ivoire; Equatorial Guinea; Gabon; Ghana; Guinea; Liberia;

Nigeria; Rwanda; Sierra Leone; Togo?; Uganda; Zaire

Papilio aristophontes I Comoro Islands

I Papilio aristor Scarce Haitian Swallowtail Dominican Republic; Haiti

V Papilio benguetanus Philippines: Luzon

Ι Papilio caiguanabus Poey's Black Swallowtail Cuba

Papilio carolinensis Philippines: Mindanao

E Papilio chikae Philippines: Luzon

Papilio esperanza Mexico

K Papilio garleppi Bolivia; Brazil; French Guiana; Guyana; Peru; Suriname

R Papilio grosesmithi Madagascar

Papilio himeros Argentina; Brazil

E Papilio homerus Homerus Swallowtail Jamaica

Papilio hospiton E Corsican Swallowtail

France: Corsica; Italy: Sardinia

R Papilio jordani Jordan's Swallowtail Indonesia: Sulawesi

Papilio leucotaenia Cream-banded Swallowtail Burundi; Rwanda; Uganda

R Papilio mangoura Madagascar

Ι Papilio manlius Mauritius

V Papilio maraho Taiwan

K Papilio maroni French Guiana

Papilio moerneri Papua New Guinea: Bismarck Archipelago

Papilio morondavana Madagascan Emperor Swallowtail Madagascar

Papilio neumoegeni Indonesia: Lesser Sunda Islands

V Papilio osmana Philippines

Papilio phorbanta Papillon La Pature Réunion

R Papilio sjoestedti Kilimanjaro Swallowtail Tanzania

R Papilio toboroi Papua New Guinea: Bougainville; Solomon Islands

R Papilio weymeri Papua New Guinea: Bismarck Archipelago

V Parides ascanius Fluminense Swallowtail Brazil

V Parides burchellanus Brazil

K Parides coelus French Guiana

R Parides hahneli Hahnel's Amazonian Swallowtail Brazil

Parides klagesi K Venezuela

K Parides pizarro Brazil; Peru

R

K Parides steinbachi Bolivia

Parnassius apollo

Apollo
Albania; Andorra; Armenia; Austria;
Azerbaijan?; Bulgaria; China; Xinjiang Uygur;
Czechoslovakia; Finland; France; Georgia;
Germany; Greece; Hungary?; Italy: including
Sicily; Iraq; Iran; Kazakhstan; Kyrgyzstan;
Liechtenstein; Mongolia; Netherlands?;
Norway; Poland; Romania; Russia; Spain;

Sweden; Switzerland; Syria; Turkey; Ukraine;

- Yugoslavia

  R Parnassius autocrator
- K Teinopalpus aureus Golden Kaiser-I-Hind China: Guangdong; Viet Nam?

Afghanistan; Tajikistan

- R Teinopalpus imperialis

  Kaiser-I-Hind

  Bhutan; China: Hubei, Sichuan; India;

  Myanmar; Nepal
- I Troides andromache Malaysia: Sabah, Sarawak; Indonesia?: Kalimantan
- V Troides dohertyi
  Talaud Black Birdwing
  Indonesia: Talaud Islands
- I Troides prattorum Indonesia: Buru

### Family PIERIDAE

- I Artogeia virginiensis West Virginia White Canada; USA
- E Belenois orgygia South Africa
- R Mylothris carcassoni
  Zimbabwe

#### Family LYCAENIDAE

- R Acrodipsas illidgei Illidge's Ant-Blue Australia
- V Agriades zullichi Spain
- V Alaena margaritacea South Africa

- R Aloeides caledoni South Africa
- R Aloeides carolynnae South Africa
- R Aloeides dentatis Lesotho; South Africa
- R Aloeides egerides South Africa
- I Aloeides kaplani South Africa
- R Aloeides lutescens South Africa
- R Aloeides merces South Africa
- I Aloeides nollothi South Africa
- R Aloeides nubilus South Africa
- I Aloeides pringlei South Africa
- R Aloeides rossouwi South Africa
- V Arawacus aethesa Brazil
- R Aslauga australis South Africa
- R Capys penningtoni South Africa
- E Chrysoritis cotrelli South Africa
- R Chrysoritis oreas
  Drakensburg Copper
  South Africa
- V Cyanophrys bertha Brazil
- I Cyclyrius mandersi Mauritius
- V Erikssonia acraeina South Africa
- R Iolaus aphnaeoides (Epamera aphnaeoides) South Africa
- R Iolaus lulua (Pseudiolaus lulua) White Spotted Sapphire South Africa

- E Joiceya praeclarus Brazil
- R Lepidochrysops bacchus Wineland Blue South Africa
- R Lepidochrysops badhami South Africa
- R Lepidochrysops balli South Africa
- R Lepidochrysops jefferyi South Africa
- R Lepidochrysops littoralis South Africa
- R Lepidochrysops loewensteini South Africa
- V Lepidochrysops lotana South Africa
- R Lepidochrysops oosthuizen South Africa
- R Lepidochrysops outeniqua South Africa
- R Lepidochrysops penningtoni South Africa
- R Lepidochrysops pephredo South Africa
- Ι Lepidochrysops poseidon South Africa
- R Lepidochrysops pringlei South Africa
- R Lepidochrysops quickelbergei South Africa
- R Lepidochrysops swanepoeli South Africa
- Ι Lepidochrysops titei South Africa
- R Lepidochrysops victori South Africa

E

- Ι Lepidochrysops wykehami South Africa
- Lycaena dispar Large Copper Armenia?; Austria; Azerbaijan?; Belarus?; Belgium; Bulgaria; Czech Republic; Estonia; Finland?; France; Georgia?; Germany; Greece: Hungary; Italy; Kazakhstan?; Latvia?; Lithuania; Luxembourg; Moldova?; Mongolia?; Netherlands: Poland: Romania: Russia:

Slovakia; Switzerland; Turkey?; Ukraine; Yugoslavia;

- R Lycaena hermes Hermes Copper Mexico: USA
- E Maculinea alcon (including M. rebeli) Alcon Large Blue

Albania?; Austria; Belarus?; Belgium; Bulgaria?; Czech Republic?; Denmark; France; Germany; Greece; Hungary; Italy; Kazakhstan?; Lithuania; Moldova?; Netherlands: Poland?: Romania: Russia: Slovakia?; Spain; Sweden: Switzerland: Turkey; Ukraine; Yugoslavia

E Maculinea arion Large Blue

Albania?; Armenia?; Austria; Azerbaijan?: Belarus?; Belgium; Bulgaria?; China; Czech Republic; Denmark; Estonia?; Finland; France: including Corsica; Georgia?; Germany; Greece; Hungary?; Iran?; Italy; Japan?; Kazakhstan?; Latvia?; Lithuania?; Moldova?; Poland; Romania?: Russia: Slovakia: Spain: Sweden: Switzerland; Turkey; Ukraine; Yugoslavia

V Maculinea arionides Greater Large Blue China: Japan: former USSR

Ukraine; Yugoslavia

E Maculinea nausithous Dusky Large Blue Armenia?; Austria; Bulgaria; Azerbaijan?; Belarus?; Czech Republic?; France; Georgia: Germany; Hungary; Kazakhstan?; Moldova?;

E Maculinea teleius Scarce Large Blue

> Austria; Belgium; Czech Republic?; France; Georgia?; Germany; Hungary; Italy; Japan; Kazakhstan?; Mongolia?; Poland; Russia; Spain?; Switzerland; Ukraine; Yugoslavia

> Poland; Romania?; Russia; Spain; Switzerland;

- R Notarthrinus binghami India
- V Nirodia belphegor Brazil
- R Orachrysops ariadne (Lepidochrysops ariadne) South Africa
- Orachrysops niobe South Africa

- R Oreolyce dohertyi Naga Hedge Blue India
- V Oxychaeta dicksoni Dickson's Copper South Africa
- E Paralucia spinifera
  Bathurst Copper
  Australia
- R Phasis pringlei South Africa
- I Plebejus emigdionis San Emigdio Blue USA
- R Poecilmitis adonis South Africa
- R Poecilmitis aureus South Africa
- R Poecilmitis azurius South Africa
- R Poecilmitis balli South Africa
- R Poecilmitis daphne South Africa
- R Poecilmitis endymion South Africa
- R Poecilmitis henningi South Africa
- R Poecilmitis hyperion South Africa
- R Poecilmitis irene South Africa
- R Poecilmitis kaplani South Africa
- R Poecilmitis lyncurium
  Tsomo River Copper
  South Africa
- I Poecilmitis lyndseyae South Africa
- I Poecilmitis orientalis South Africa
- I Poecilmitis pan South Africa
- R Poecilmitis penningtoni South Africa

- R Poecilmitis pyramus South Africa
- R Poecilmitis rileyi South Africa
- R Poecilmitis stepheni South Africa
- R Poecilmitis swanepoeli South Africa
- I Poecilmitis trimeni South Africa
- R Poecilmitis wykehami South Africa
- V Polyommatus humedasae Piedmont Anomalous Blue Italy
- R Polyommatus galloi
  Higgin's Anomalous Blue
  Italy
- V Polyommatus golgus (Plebicula golgus) Sierra Nevada Blue Spain
- V Spindasis collinsi Tanzania
- K Strymon avalona Avalon Hairstreak USA
- V Styx infernalis Peru
- I Thestor brachycerus South Africa
- I Thestor compassbergae South Africa
- I Thestor dryburghi South Africa
- R Thestor kaplani
  Kaplan's Thestor
  South Africa
- R Thestor pringlei South Africa
- I Thestor rossouwi South Africa
- I Thestor stepheni South Africa
- R Thestor strutti
  South Africa

1	South Africa	K	Indonesia: Sulawesi
R	Thestor tempe	R	Euploea euphon
K	South Africa		Mauritius; Réunion; Rodrigues
R	Thestor yildizae South Africa	R	Euploea gamelia Indonesia: Java
R	Trimenia wallengrenii Wallengren's Copper South Africa	R	Euploea lacon Papua New Guinea: Bismarck Archipelago
v	Uranothauma usambarae Tanzania	R	Euploea latifasciata Indonesia: Sulawesi
Fam	ily DANAIDAE	R	Euploea magou Indonesia: Sulawesi
R	Amauris comorana Comoro Islands	R	Euploea martinii Indonesia: Sumatra
R	Amauris nossima Comoro Islands; Madagascar	R	Euploea mitra Seychelles
R	Amauris phoedon Mauritius	R	Euploea tobleri Philippines
R	Anetia briarea Cuba; Dominican Republic; Haiti	R	Euploea tripunctata Indonesia: Irian Jaya
R	Anetia cubana Cuba	R	Idea electra Philippines
R	Anetia jaegeri Dominican Republic; Haiti	R	Idea iasonia Sri Lanka
R	Anetia pantheratus Cuba; Dominican Republic; Haiti	R	Idea malabarica India
K	Danaus cleophile Dominican Republic; Haiti; Jamaica	K	Idea tambusisiana Sulawesi Tree Nymph Indonesia: Sulawesi
R	Euploea albicosta Indonesia: Irian Jaya	R	Ideopsis hewitsonii Indonesia: Irian Jaya
R	Euploea blossomae Philippines	R	Ideopsis klassika Indonesia
R	Euploea caespes Indonesia	R	Ideopsis oberthurii Indonesia
R	Euploea configurata Indonesia: Sulawesi	R	Parantica albata Indonesia: Java, Sumatra
R	Euploea cordelia Indonesia: Sulawesi	R	Parantica clinias
R	Euploea dentiplaga Indonesia	R	Papua New Guinea: Bismarck Archipelago  Parantica crowleyi
R	Euploea doretta Papua New Guinea: Bismarck Archipelago		Brunei?; Indonesia: Kalimantan; Malaysia: Sabah, Sarawak
R	Euploea eboraci Papua New Guinea: Bismarck Archipelago	R	Parantica dannatti Philippines
		E	Parantica davidi Philippines

- R Parantica garamantis
  Papua New Guinea: Bougainville; Solomon
  Islands
- K Parantica kirbyi Indonesia: Irian Jaya; Papua New Guinea: New Guinea
- R Parantica kuekenthali Indonesia: Sulawesi
- R Parantica marcia Indonesia: Irian Jaya
- R Parantica menadensis Indonesia: Sulawesi
- R Parantica milagros Philippines
- R Parantica nilgiriensis
  India
- R Parantica philo Indonesia
- R Parantica phyle
  Philippines
- R Parantica pseudomelaneus Indonesia: Java
- R Parantica pumila New Caledonia
- R Parantica rotundata
  Papua New Guinea: Bismarck Archipelago
- R Parantica schoenigi Philippines
- R Parantica sulewattan Indonesia: Sulawesi
- R Parantica taprobana Sri Lanka
- R Parantica tityoides Indonesia: Sumatra
- R Parantica toxopei Indonesia: Sulawesi
- R Parantica wegneri Indonesia
- R Parantica weiskei Indonesia: Irian Jaya; Papua New Guinea: New Guinea
- R Protoploea apatela Indonesia: Irian Jaya; Papua New Guinea: New Guinea
- R Tiradelphe schneideri Solomon Islands

- R Tirumala euploeomorpha Solomon Islands
- R Tirumala gautama
  China: Hainan; India: Nicobar Islands;
  Malaysia: Langkawi Islands; Myanmar;
  Thailand: Viet Nam

## Family SATYRIDAE

- E Coenonympha oedippus
  False Ringlet
  Austria; Belgium; France; Germany; Hungary;
  Italy; Japan; Kazakhstan?; Liechtenstein;
  Mongolia?; Poland; Russia; Slovakia; Spain;
  Switzerland: Ukraine
- V Erebia christi
  Raetzer's Ringlet
  Italy; Switzerland
- I Erebia gorgone Gavarnie Ringlet France; Spain
- R Erebia ottomana
  Ottoman Brassy Ringlet
  Albania; Bulgaria; France; Greece; Italy;
  Turkey; Yugoslavia
- R Erebia scipio Larche Ringlet France; Italy
- R Erebia sthennyo
  False Dewy Ringlet
  France; Spain
- V Erebia sudetica
  Sudeten Ringlet
  Austria; Czech Republic?; France; Hungary;
  Italy; Poland; Romania; Slovakia?; Switzerland
- R Lethe distans
  Scarce Red Forester
  India; Myanmar
- R Lethe margaritae Bhutan; India
- R Lethe ramadeva Bhutan; India; Myanmar
- R Lethe satyavati India
- V Stygionympha dicksoni Dickson's Brown South Africa

## Family NYMPHALIDAE

- I Anaea floridalis
  Florida Leafwing
  USA
- I Antanartia borbonica Madagascar; Mauritius; Réunion
- R Apaturopsis kilusa Madagascar
- R Apaturopsis pauliani Madagascar
- E Boloria acrocnema
  Uncompangre Fritillary Butterfly
  USA
- R Charaxes cowani Madagascar
- V Charaxes marieps South Africa
- V Charaxes usambarae Tanzania
- V Cymothoe amaniensis
  Tanzania
- R Cymothoe aurivillii Tanzania
- V Cymothoe magambae Tanzania
- R Cymothoe melanjae Malawi
- V Cymothoe teita Kenya
- I Euryphura achlys

  Mottled Green

  Kenya; Malawi; Mozambique; South Africa;

  Tanzania; Zimbabwe
- I Euthalia malapana Taiwan
- R Euxanthe madagascariensis Madagascar
- V Fabriciana elisa Corsican Fritillary

France: Corsica; Italy: Sardinia

E Heliconius nattereri Natterer's Longwing Brazil E Hypodryas maturna

Scarce Fritillary

Austria; Belgium; Czech Republic?; France; Germany; Greece; Hungary; Kazakhstan?; Lithuania; Luxemburg; Poland; Romania; Russia; Sweden; Yugoslavia

- V Hypolimnas antevorta Tanzania
- R Neptis manasa
  Pale Hockeystick Sailer
  China: India
- R Neptis nycteas
  India: Sikkim
- E Phalanta philiberti Sevchelles
- E Phyciodes batesi
  Tawny Crescent Butterfly
  USA
- I Salamis angustina Salamis Retrecie Madagascar, Mauritius; Réunion
- I Sasakia charonda Japan; Taiwan
- R Smerina manoro Madagascar
- I Speyeria idalia Regal Fritillary Canada; USA

#### Family ACRAEIDAE

- R Acraea hova Madagascar
- R Acraea sambavae Madagascar

## Family PYRALIDAE

- V Kupea electilis New Zealand
- I Margaronia cyanomichla
  Blue Margaronian
  USA: Hawaiian Islands
- I Margaronia exaula
  Green Margaronian
  USA: Hawaiian Islands
- I Oeoblia dryadopa
  Ohenaupaka Oeobian Moth
  USA: Hawaiian Islands

## Family GEOMETRIDAE

- I Acalyphes philorites
  Australia: Tasmania
- I Dirce aesiodora
  Australia: Tasmania
- I Dirce lunaris
  Australia: Tasmania
- I Dirce oriplancta
  Australia: Tasmania
- I Dirce solaris
  Australia: Tasmania
- I Fletcherana ioxantha Ioxantha Looper Moth USA: Hawaiian Islands

## Family LASIOCAMPIDAE

E Eriogaster catax

Austria; Belgium; Bulgaria; Czech Republic; Germany; Hungary; Italy; Netherlands; Slovakia; Spain; Yugoslavia

V Phyllodesma ilicifolia Small Lappet Moth

> ?Austria; Belarus?; Belgium; China; Czech Republic?; Denmark; Estonia?; Finland; France; Germany; Italy?; Japan; Kazakhstan?; Latvia?; Lithuania?; Mongolia?; Norway?; Poland; Romania; Russia; Slovakia?; Spain?; Sweden; Switzerland?; Ukraine?

#### Family SATURNIIDAE

V Graellsia isabelae Spanish Moon Moth France; Spain

## Family SPHINGIDAE

- V Euproserpinus euterpe Kern Primrose Sphinx Moth USA
- E Euproserpinus wiesti
  Prairie Sphinx Moth
  USA

V Hyles hippophaes

?Afghanistan; Armenia?; Azerbaijan?; China: Xinjiang; France; Georgia?; Germany; Greece; Iran; Iraq?; Kazakhstan?; Kyrgyzstan?; Mongolia; Pakistan?; Romania; Spain; Switzerland; Syria; Tajikistan?; Turkey; Turkmenistan?; Uzbekistan?; Yugoslavia

E Manduca blackburni
Blackburn's Sphinx Moth
USA: Hawaiian Islands (Maui)

V Proserpinus proserpina Willowherb Hawkmoth

?Armenia; Austria; Azerbaijan?; Belgium; Bulgaria; France; Germany; Greece; Hungary; Iran; Iraq?; Italy; Lebanon; Kazakhstan?; Morocco; Portugal; Spain; Switzerland; Syria?; Turkey; Turkmenistan?; Uzbekistan

## Family NOCTUIDAE

- I Catocala marmorata
  Marbled Underwing Moth
  USA
- I Catocala pretiosa
  Precious Underwing Moth
  USA
- I Erythroecia hebardi Hebard's Noctuid Moth USA
- I Lithophane lemmeri
  Lemmer's Noctuid Moth
  USA
- I Pyreferra ceromatica
  Ceromatic Noctuid Moth
  Canada; USA

## Order HYMENOPTERA

#### Family EUPELMIDAE

I Eupelmus nihoaensis
Nihoa Eupelmus Wasp
USA: Hawaiian Islands

#### Family BETHYLIDAE

I Sclerodermus nihoaensis Nihoa Sclerodermus Wasp USA: Hawaiian Islands

## Family MUTILLIDAE

I Myrmosula pacifica Antioch Mutillid Wasp USA

#### Family FORMICIDAE

- K Aneuretus simoni Sri Lankan Relict Ant Sri Lanka
- V Formica aquilonia European Red Wood Ant

Austria; Belarus; Bulgaria; Finland; France; Germany; Italy; Latvia; Norway; Russia; Sweden; Switzerland; United Kingdom; Yugoslavia

## V Formica lugubris

European Red Wood Ant

Austria; Bulgaria; Finland; France; Germany; Hungary; Ireland; Italy; Norway; Romania; Russia; Slovakia; Spain; Sweden; Switzerland; United Kingdom; Yugoslavia

## V Formica polyctena

European Red Wood Ant

Austria; Belgium; Bulgaria; Czech Republic; Finland; France; Germany; Hungary; Italy; Latvia; Lithuania; Netherlands; Norway; Poland; Romania; Russia; Slovakia; Spain; Sweden; Switzerland; Ukraine; Yugoslavia

## V Formica pratensis/nigricans

European Red Wood Ant

Austria; Belgium; Bulgaria; Czech Republic; Estonia; Finland; France; Georgia; Germany; Hungary; Italy; Latvia; Lithuania; Luxembourg; Moldova; Netherlands; Norway; Poland; Romania; Russia; Slovakia; Spain; Sweden; Switzerland; Turkey; Ukraine; United Kingdom; Yugoslavia

## V Formica rufa

European Red Wood Ant

Austria; Belarus; Belgium; Bulgaria; Czech Republic; Denmark; Estonia; Finland; France; Germany; Hungary; Italy; Latvia; Lithuania; Luxembourg; Moldova; Netherlands; Norway; Poland; Romania; Russia; Slovakia; Spain; Sweden; Switzerland; Turkey; Ukraine; United Kingdom; Yugoslavia

#### I Formica uralensis

European Red Wood Ant

Belarus, Denmark, Estonia, Finland, France, Germany; Kazakhstan, Latvia, Lithuania, Norway, Poland, Russia, Sweden, Switzerland, Ukraine

K Nothomyrmecia macrops Australian Ant Australia

## Family VESPIDAE

- E Odynerus niihauensis Niihau Vespid Wasp USA: Hawaiian Islands
- E Odynerus soror
  Soror Vespid Wasp
  USA: Hawaiian Islands

#### Family SPHECIDAE

E Deinomimesa hawaiiensis
 Hawaiian Sphecid Wasp
 USA: Hawaiian Islands

- E Deinomimesa punae
  Puna Sphecid Wasp
  USA: Hawaiian Islands
- E Ectemnius curtipes
  Short-foot Sphecid Wasp
  USA: Hawaiian Islands
- E Ectemnius fulvicrus
  Brown Cross Sphecid Wasp
  USA: Hawaiian Islands
- E Ectemnius giffardi
  Giffard's Sphecid Wasp
  USA: Hawaiian Islands
- E Ectemnius haleakalae Haleakala Sphecid Wasp USA: Hawaiian Islands
- I Eucerceris ruficeps
  Redheaded Sphecid Wasp
  USA
- E Nesomimesa kauaiensis Kauai Sphecid Wasp USA: Hawaiian Islands
- E Nesomimesa perkins USA: Hawaiian Islands
- E Nesomimesa sciopteryx
  Shade-winged Sphecid Wasp
  USA: Hawaiian Islands
- I Philanthus nasalis
  Antioch Sphecid Wasp
  USA

## Family MEGACHILIDAE

K Chalicodoma pluto
Wallace's Giant Bee
Indonesia: Moluccas

# Phylum ONYCHOPHORA

## Family PERIPATIDAE

- R Macroperipatus insularis Jamaica
- V Mesoperipatus tholloni Congo
- R Plicatoperipatus jamaicensis Jamaica
- V Speleoperipatus spelaeus Jamaica

## Family PERIPATOPSIDAE

- V Opisthopatus roseus South Africa
- V Peripatoides indigo New Zealand
- R Peripatoides suteri New Zealand
- V Peripatopsis alba South Africa
- R Peripatopsis clavigera South Africa
- E Peripatopsis leonina
  South Africa: Signal Hill near Capetown

- V Tasmanipatus barretti Australia: Tasmania
- V Tasmanipatus anophthalmus Australia: Tasmania

# Phylum ECHINODERMATA

Class ECHINOIDEA

Order ECHINOIDA

Family ECHINIDAE

K Echinus esculentus
European Edible Sea Urchin
(North-east Atlantic)

# List 2

# **EXTINCT SPECIES**



## Class MAMMALIA

## Order DASYUROMORPHIA

## Family THYLACINIDAE

Ex Thylacinus cynocephalus
Thylacine
Australia: Tasmania (1934)

## Order PERAMELEMORPHIA

## Family PERAMELIDAE

Ex Chaeropus ecaudatus Pig-footed Bandicoot Australia (1907)

Ex Macrotis leucura Lesser Bilby Australia (1931)

Ex Perameles eremiana Desert Bandicoot Australia (1935)

# Order DIPROTODONTIA

# Family POTOROIDAE

Ex Caloprymnus campestris

Desert Rat-kangaroo

Australia (1935)

Ex Potorous platyops
Broad-faced Potoroo
Australia (1875)

#### Family MACROPODIDAE

Ex Lagorchestes asomatus Central Hare-wallaby Australia (1931)

Ex Lagorchestes leporides
Eastern Hare-wallaby
Australia (1890)

Ex Macropus greyi Toolache Wallaby Australia (1927)

Ex Onychogalea lunata Crescent Nailtail Wallaby Australia (1964)

## Order INSECTIVORA

## Family NESOPHONTIDAE

Nesophontes hypomicrus
Atalaye Nesophontes
Dominican Republic; Haiti

Nesophontes micrus
Western Cuban Nesophontes
Cuba

Nesophontes paramicrus
Saint Michel Nesophontes
Dominican Republic; Haiti

Nesophontes zamicrus Haitian Nesophontes Dominican Republic; Haiti

Nesophontes sp. Cayman Islands

## Order CHIROPTERA

#### Family PTEROPODIDAE

Ex Acerodon lucifer
Panay Giant Fruit Bat
Philippines: Panay (1888)

Ex? Dobsonia chapmani
Philippine Bare-backed Fruit Bat
Philippines: Cebu, Negros (1964)

Ex Nyctimene sanctacrucis
Solomon Islands: Santa Cruz Islands

Ex? Pteropus brunneus

Australia: Percy Island

Ex Pteropus loochoensis (Pteropus mariannus loochoensis) Okinawa Flying-fox Japan: Nansei-shoto (Okinawa)

Ex Pteropus pilosus Palau Flying-fox Palau (19th C)

Ex Pteropus subniger
Mauritius: Réunion

Ex? Pteropus tokudae Guam Flying-fox Guam (1968)

#### Family PHYLLOSTOMIDAE

Ex Phyllonycteris major
Puerto Rican Flower Bat
Puerto Rico

#### Family VESPERTILIONIDAE

Ex? Kerivoula africana
Tanzanian Woolly Bat
Tanzania

Ex Pipistrellus sturdeei
Bonin Pipistrelle
Japan: Ogasawara-shoto

## Family MYSTACINIDAE

Ex Mystacina robusta

New Zealand Greater Short-tailed Bat

New Zealand: Big South Cape Island,

Solomon Island (1960s)

#### Order CARNIVORA

Family CANIDAE

Ex Dusicyon australis
Falkland Island Wolf
Falkland Islands (1876)

## Family PHOCIDAE

Ex Monachus tropicalis
Caribbean Monk Seal
Bahamas; Colombia: Isla de Providencia;
Cuba; Guadeloupe; Haiti: Alta Vela; Honduras;
Jamaica: Pedro Cays; Mexico; USA (1962)

## Family PROCYONIDAE

Ex? Procyon gloveralleni (Procyon lotor gloveralleni) Barbados Raccoon Barbados

## Order SIRENIA

#### Family DUGONGIDAE

Ex Hydrodamalis gigas
Steller's Sea Cow
(Bering Sea; North Pacific Ocean)
Russia; USA? (1768)

#### Order PERISSODACTYLA

## Family EQUIDAE

Ex Equus quagga (Equus burchellii quagga) Quagga South Africa (1883)

# Order ARTIODACTYLA

## Family SUIDAE

Ex? Sus bucculentus
(Sus verrucosus bucculentus)
Vietnam Warty Pig
Viet Nam

## Family CERVIDAE

Cervus schomburgki (Cervus duvaucelli schomburgki) Schomburgk's Deer Thailand (1932)

## Family BOVIDAE

Ex Gazella rufina Red Gazelle Algeria (19th C)

Ex Hippotragus leucophaeus
Bluebuck
South Africa (1800)

## Order RODENTIA

## Family MURIDAE

Ex Conilurus albipes
Rabbit-eared Tree-rat
Australia (1875)

Ex? Crateromys paulus
Ilin Island Cloud Rat
Philippines: Ilin Island

Ex? Leimacomys buettneri
Togo

Ex Leporillus apicalis
Lesser Stick-nest Rat
Australia (1933)

Megalomys desmarestii Martinique Rice Rat Martinique (1902)

Megalomys luciae Saint Lucia Rice Rat Saint Lucia (19th C)

Nesoryzomys darwini Santa Cruz Rice Rat Ecuador: Galapagos Islands

Ex Notomys amplus
Short-tailed Hopping-mouse
Australia (1894)

Ex Notomys longicaudatus
Long-tailed Hopping-mouse
Australia (1901)

Ex Notomys macrotis (includes N. megalotis) Big-eared Hopping-mouse Australia (pre 1850)

Ex Notomys mordax
Darling Downs Hopping-mouse
Australia (pre 1846)

Oligoryzomys victus
Saint Vincent Rice Rat
Saint Vincent (1897)

Ex? Oryzomys nelsoni Nelson's Rice Rat Mexico

Ex Peromyscus pembertoni
Pemberton's Deer Mouse
Mexico: San Pedro Nolasco Island

Ex Pitymys bavaricus
Bavarian Pine Vole
Germany

Ex Pseudomys fieldi Alice Springs Mouse Australia (1895)

Ex Pseudomys gouldii Gould's Mouse Australia (1930)

> Rattus macleari Maclear's Rat Christmas Island (1908)

> Rattus nativitatis
> Bulldog Rat
> Christmas Island (1908)

## Family ECHIMYIDAE

Boromys offella Cuba

Boromys torrei Cuba

Brotomys contractus Dominican Republic; Haiti

Brotomys voratus Dominican Republic; Haiti

## Family CAPROMYIDAE

Capromys sp.
Cayman Islands

Geocapromys columbianus Cuba

Geocapromys sp. Cayman Islands

Isolobodon portoricensis

Dominican Republic; Haiti
[Puerto Rico] (20th C)

Plagiodontia velozi

Dominican Republic; Haiti

## Order LAGOMORPHA

Family OCHOTONIDAE

Ex Prolagus sardus
Sardinian Pika
Italy: Sardinia; France: Corsica (18th C)

#### Class AVES

## Order STRUTHIONIFORMES

# Family DROMAIIDAE

Dromaius ater King Island Emu Australia: King Island

Dromaius baudinianus (Dromaius diemenianus) Kangaroo Island Emu Australia: Kangaroo Island (1803)

## Family AEPYORNITHIDAE

Aepyornis maximus Great Elephantbird Madagascar (1650)

# Family ANOMALOPTERYGIDAE

Dinornis torosus Brawny Great Moa New Zealand (1670)

Eurapteryx gravis
Burly Lesser Moa
New Zealand (1640)

Megalaperyx didinus South Island Tokoweka New Zealand (1785)

## Order PODICIPEDIFORMES

# Family PODICIPEDIDAE

Ex Podilymbus gigas
Atitlan Grebe
Guatemala (1980-1986/7)

# Order PROCELLARIIFORMES

## Family PROCELLARIIDAE

Pterodroma sp.
Mauritius: Rodrigues (1726)

## Order PELICANIFORMES

#### Family PHALACROCORACIDAE

Phalacrocorax perspicillatus Pallas's Cormorant Russia: Bering Straits (1852)

## Order CICONIIFORMES

Family ARDEIDAE

Ixobrychus novaezelandiae Black-backed Bittern New Zealand (1900)

Nycticorax mauritianus Mauritius Night-heron Mauritius (by 1700)

Nycticorax megacephalus Rodrigues Night-heron Mauritius: Rodrigues (1761)

Nycticorax sp. Réunion (by 1700)

Family CICONIIDAE

Ciconia sp. Réunion (1674)

Family THRESKIORNITHIDAE

Borbonibis latipes Réunion Flightless Ibis Réunion (1773)

## Order ANSERIFORMES

Family ANATIDAE

Alopochen mauritianus Mauritian Shelduck Mauritius (1698)

Mauritius (1698)

Anas theodori

Mauritian Duck

Mauritius; ?Réunion (1696)

Camptorhynchus labradorius Labrador Duck

Canada; USA (1878)

Cygnus sumnerensis

Chatham Island Swan New Zealand: Chatham Island (1590-1690)

Mergus australis
Auckland Islands Merganser
New Zealand (1905)

Ex Rhodonessa caryophyllacea Pink-headed Duck India; Myanmar, Nepal (1935)

Order FALCONIFORMES

Family FALCONIDAE

Falco sp. Réunion (1674) Ex Polyborus lutosus
Guadalupe Caracara
Mexico: Guadalupe Island (1900)

Order GALLIFORMES

Family PHASIANIDAE

Coturnix novaezelandiae New Zealand Quail New Zealand (1875)

Ex Ophrysia superciliosa Himalayan Quail India (1868)

Order GRUIFORMES

Family RALLIDAE

Aphanapteryx bonasia Red Rail Mauritius (1700)

Aphanapteryx leguati
Rodrigues Rail

Mauritius: Rodrigues (1761)

Atlantisia elpenor

Ascension Flightless Crake
United Kingdom: Ascension Island (1656)

Fulica newtoni
Mascarene Coot
Mauritius; Réunion (1693)

Gallinula pacifica
Samoan Moorhen
Western Samoa: Savaii (1908-1926)

Western Samoa: Savaii (1908-1926) Gallirallus dieffenbachii

Dieffenbach's Rail New Zealand: Chatham Island (1840)

Gallirallus lafresnayanus New Caledonian Rail New Caledonia (1904)

Gallirallus modestus Chatham Islands Rail New Zealand: Chatham Island (1900)

Gallirallus pacificus Tahiti Rail French Polynesia (1773-4)

Gallirallus wakensis Wake Island Rail USA: Wake Island (1945)

Nesoclopeus woodfordi

Woodford's Rail
Papua New Guinea; ?Solomon Islands:
Guadalcanal, Santa Isabel (1936)

Porphyrio albus

(Notornis alba)

Lord Howe Swamphen

Australia: Lord Howe Island (1834)

Porzana monasa

Kosrae Crake

Federated States of Micronesia (1827)

Porzana palmeri

Laysan Crake

USA: Hawaiian Islands (Laysan) (1944)

Porzana sandwichensis

Hawaiian Crake

USA: Hawaiian Islands (1898)

Order CHARADRIIFORMES

Family SCOLOPACIDAE

Prosobonia leucoptera

Tahitian Sandpiper

French Polynesia: Moorea, Tahiti (1773)

Family CHARADRIIDAE

Haematopus meadewaldoi

Canary Islands Oystercatcher

Spain: Canary Islands (1913)

Family LARIDAE

Alca impennis

Great Auk

Canada; Denmark: Faeroe Islands; Greenland;

Iceland; Russia; United Kingdom (1844)

Order COLUMBIFORMES

Family RAPHIDAE

Pezophaps solitaria

Rodrigues Solitaire

Mauritius: Rodrigues (1765).

Raphus cucullatus

Dodo

Mauritius (1665)

Raphus solitarius

Réunion Solitaire

Réunion (1710-1715)

Family COLUMBIDAE

Alectroenas nitidissima

Mauritius Blue Pigeon

Mauritius (1835)

'Alectroenas' rodericana

Rodrigues Pigeon

Mauritius: Rodrigues (1726)

Columba jouyi

Ryukyu Pigeon

Japan: Nansei-shoto (1936)

Columba versicolor

Bonin Wood Pigeon

Japan: Ogasawara-shoto (1889)

Ectopistes migratorius

Passenger Pigeon

USA (1914)

Ex Microgoura meeki

Choiseul Pigeon

Solomon Islands: Choiseul (1904)

Ex Ptilinopus mercierii

Red-moustached Fruit-Dove

French Polynesia: ?Fatuhiva, Hivaoa, ?Tahuata

Order PSITTACIFORMES

Family LORHDAE

Charmosyna diadema

New Caledonian Lorikeet

New Caledonia (1860)

Family PSITTACIDAE

Ara tricolor

Cuban Red Macaw

Cuba (1885)

Conuropsis carolinensis

Carolina Parakeet

USA (1914)

Cyanoramphus ulietanus

Raiatea Parakeet

French Polynesia: Raiatea (1773)

Cvanoramphus zealandicus

Black-fronted Parakeet

French Polynesia: Tahiti (1844)

'Lophopsittacus' bensoni

Mauritius Grey Parrot

Mauritius (1765)

Lophopsittacus mauritianus

Mauritius Parrot

Mauritius (1675)

Mascarinus mascarinus

Mascarene Parrot

Réunion (1775 in wild, 1834 in captivity)

'Necropsittacus' rodericanus

Rodrigues Parrot

Mauritius: Rodrigues (1761)

Ex Nestor productus
Norfolk Island Kaka
Norfolk Island (1851)

Psephotus pulcherrimus Paradise Parrot Australia (1927)

Ex Psittacula exsul Newton's Parakeet

Mauritius: Rodrigues (1876)

Psittacula wardi Seychelles Parrot Seychelles (1870)

Order CUCULIFORMES

Family CUCULIDAE

Ex Coua delalandei Snail-eating Coua Madagascar (1930)

Order STRIGIFORMES

Family STRIGIDAE

'Athene' murivora Rodrigues Little Owl Mauritius: Rodrigues (1726)

?Sauzieri sp. Mauritian Owl

Ex Sceloglaux albifacies
Laughing Owl
New Zealand (1914)

'Scops' commersoni Mauritian Owl Mauritius (1836)

Family AEGOTHELIDAE

Aegotheles savesi New Caledonian Owlet-nightjar New Caledonia (1880)

Order APODIFORMES

Family TROCHILIDAE

Chlorostilbon bracei Grace's Emerald Bahamas (1877)

Order PASSERIFORMES

Family XENICIDAE

Xenicus Iyalli Stephens Island Wren New Zealand: Stephens Island (1874) Family PYCNONOTIDAE

Hypsipetes sp.
Mauritius: Rodrigues (1600s?)

Family MUSCICAPIDAE

Ex Eutrichomyias rowleyi
Cerulean Paradise-Flycatcher
Indonesia: Sangihe (1978)

Gerygone insularis
Lord Howe Gerygone
Australia: Lord Howe Island

Turnagra capensis
Piopio
New Zealand (1955)

Turdus ravidus Grand Cayman Thrush Cayman Islands (1938)

Zoothera terrestris Bonin Thrush Japan: Ogasawara-shoto (1928)

Family ZOSTEROPIDAE

Zosterops strenuus Robust White-eye Australia: Lord Howe Island (1928)

Family MELIPHAGIDAE

Chaetoptila angustipluma Kiœa

USA: Hawaiian Islands (1860)

Moho apicalis Oahu Oo USA: Hawaiian Islands (Oahu) (1837)

Moho nobilis Hawaii Oo

USA: Hawaiian Islands (Hawaii) (1934)

Family DREPANIDAE

Chloridops kona Kona Grosbeak USA: Hawaiian Islands (1894)

Ciridops anna
Ula-ai-hawane
USA: Hawaiian Islands (1892)

Drepanis funerea Black Mamo USA: Hawaiian Islands (1907)

Drepanis pacifica Hawaii Mamo USA: Hawaiian Islands (1899) Ex Paroreomyza flammea

Molokai Creeper

USA: Hawaiian Islands (Molokai) (1963)

Rhodacanthis flaviceps

Lesser Koa-finch

USA: Hawaiian Islands (1891)

Rhodacanthis palmeri

Greater Koa-finch

USA: Hawaiian Islands (1896)

Viridonia sagittirostris

Greater Amakihi

USA: Hawaiian Islands (1900)

Family ICTERIDAE

Quiscalus palustris

Slender-billed Grackle

Mexico (1910)

Family FRINGILLIDAE

Chaunoproctus ferreorostris

Bonin Grosbeak

Japan: Ogasawara-shoto (1890)

Spiza townsendi

Townsend's Finch

USA (1833)

Family PLOCEIDAE

Foudia sp.

Reunion Fody

Réunion (1671)

Family STURNIDAE

Aplonis corvina

Kosrae Mountain Starling

Federated States of Micronesia: Kosrae (1828)

Aplonis fusca

Tasman Starling

Australia: Lord Howe Island, Norfolk Island

Aplonis mavornata

Mysterious Starling

Unknown (1825)

Ex Aplonis pelzelni

Pohnpei Starling

Federated States of Micronesia: Pohnpei

(1956)

Fregilupus varius

Réunion Starling

Réunion (1854)

Necrospar rodericanus

Rodrigues Starling

Mauritius: Rodrigues (1726)

Family CALLAEIDAE

Heteralocha acutirostris

Huia

New Zealand (1907)

Class REPTILIA

Order TESTUDINES

Family TESTUDINIDAE

Cylindraspis borbonica

Réunion (1800)

Cylindraspis indica

Réunion (1800)

Cylindraspis inepta Mauritius (early 18th C)

Cylindraspis peltastes

Mauritius: Rodrigues (1800)

Cylindraspis triserrata

Mauritius (early 18th C)

Cylindraspis vosmaeri

Mauritius: Rodrigues (1800)

Order SAURIA

Family GEKKONIDAE

Hoplodactylus delcourti

New Zealand (mid 19th C)

Ex Phelsuma gigas

(includes P. edwardnewtonii and P. newtonii)

Rodrigues Day Gecko

Mauritius: Rodrigues

Family IGUANIDAE

Leiocephalus eremitus

USA: Navassa Island (1900)

Leiocephalus herminieri

Martinique (1830s)

Family TEIIDAE

Ameiva cineracea

Guadeloupe (early 20th C)

Ameiva major

Martinique Giant Ameiva

Martinique

Family SCINCIDAE

Leiolopisma mauritiana

Mauritius (1600)

Ex? Macroscincus coctei

Cape Verde Giant Skink

Cape Verde: Branco, Razo (early 20th C)

Ex? Tachygia microlepis
Tonga Ground Skink
Tonga: Tongatapu

Ex? Tetradactylus eastwoodae
Eastwood's Longtailed Seps
South Africa

Family ANGUIDAE

Ex? Celestus occiduus Jamaica Giant Galliwasp Jamaica (1840)

Order SERPENTES

Family TYPHLOPIDAE

Typhlops cariei Mauritius (17th C)

Family BOIDAE

Ex? Bolyeria multocarinata
Round Island Boa
Mauritius; Round Island (1975)

Family COLUBRIDAE

Alsophis sancticrucis
Saint Croix Racer
Virgin Islands of the United States (20th C)

Class AMPHIBIA

Order ANURA

Family DISCOGLOSSIDAE

Ex? Discoglossus nigriventer
Israel Painted Frog
Israel: Lake Huleh (1940)

Family RANIDAE

Ex? Arthroleptides dutoiti Kenya: Mt. Elgon

Ex? Rana fisheri
(Rana onca, Rana pipiens fisheri)
Vegas Valley Leopard Frog
USA (1960)

Ex? Rana tlaloci Mexico

Class CEPHALASPIDOMORPHI

Order PETROMYZONTIFORMES

Family PETROMYZONTIDAE

Ex Lampetra minima Miller Lake Lamprey USA (1953) Class ACTINOPTERYGII
Order CYPRINIFORMES

Family CYPRINIDAE

Ex? Acanthobrama hulensis
Israel: Lake Huleh

Ex? Cyprinus yilongensis
China: Yunnan Province

Ex Evarra bustamantei
Mexican Dace
Mexico (1970)

Ex Evarra eigenmanni Mexican Dace Mexico (1970)

Ex Evarra tlahuacensis
Mexican Dace
Mexico (1970)

Ex Gila crassicauda Thicktail Chub USA (1957)

Ex Lepidomeda altivelis Pahranagat Spinedace USA (1940)

Ex Notropis amecae Ameca Shiner Mexico (1970)

Ex Notropis aulidion
Durango Shiner
Mexico (1965)

Ex Notropis orca
Phantom Shiner
Mexico: USA (1975)

Ex Pogonichthys ciscoides Clear Lake Splittail USA (1970)

Ex Rhinichthys deaconi Las Vegas Dace USA (1955)

Ex Stypodon signifer Stumptooth Minnow Mexico (1930)

Family CATOSTOMIDAE

Ex Chasmistes muriei Snake River Sucker USA (1928)

Ex Lagochila lacera Harelip Sucker USA (1910)

#### Order SILURIFORMES

# Family TRICHOMYCTERIDAE

Ex Rhizosomichthys totae Colombia: Lake Tota

#### Order SALMONIFORMES

#### Family RETROPINNIDAE

Ex Prototroctes oxyrhynchus New Zealand Grayling New Zealand (1920s)

# Family SALMONIDAE

Ex Coregonus alpenae
Longjaw Cisco
(Great Lakes)
Canada; USA (1978)

Ex Coregonus johannae
Deepwater Cisco
(Great Lakes)
Canada; USA (1955)

Ex Salvelinus agassizi Silver Trout USA (1930)

#### Order ATHERINIFORMES

# Family MELANOTAENIIDAE

Ex? Melanotaenia eachamensis
(possibly a form of M. splendida)
Lake Eacham Rainbowfish
Australia

# Order CYPRINODONTIFORMES

# Family CYPRINODONTIDAE

Ex Cyprinodon latifasciatus
Perrito de Parras
Mexico (1930)

Ex? Cyprinodon spp.

Perritos de Sandia

Mexico

Ex Fundulus albolineatus
Whiteline Topminnow
USA (1900)

## Family GOODEIDAE

Ex Characodon garmani
Parras Characodon
Mexico (1900)

Ex Empetrichthys merriami Ash Meadows Killifish USA (1953)

# Family POECILIDAE

Ex Gambusia amistadensis Amistad Gambusia USA (1973)

Ex Gambusia georgei San Marcos Gambusia USA (1983)

Ex *Priapella bonita*Guayacon Ojiazul
Mexico

#### Order SYNGNATHIFORMES

#### Family SYNGNATHIDAE

Ex Syngnathus watermayeri
River Pipefish
South Africa

#### Order SCORPAENIFORMES

#### Family COTTIDAE

Ex Cottus echinatus Utah Lake Sculpin USA (1928)

#### Order PERCIFORMES

#### Family PERCIDAE

Ex? Etheostoma sellare Maryland Darter USA

# Phylum PLATYHELMINTHES

#### Class TURBELLARIA

Order TRICLADIDA

Family KENKIIDAE

Ex? Romankenkius pedderensis Lake Pedder Planarian Australia: Tasmania

# Phylum MOLLUSCA

#### Class GASTROPODA

Order ARCHEOGASTROPODA

# Family LOTTIIDAE

Ex Lottia alveus
Eelgrass Limpet
USA

# Family HELICINIDAE

- Ex Ogasawarana chichijimana Japan: Ogasawara
- Ex Ogasawarana habei Japan: Ogasawara
- Ex Ogasawarana hirasei Japan: Ogasawara
- Ex Ogasawarana metamorpha Japan: Ogasawara
- Ex Ogasawarana rex Japan: Ogasawara
- Ex Ogasawarana yoshiwarana Japan: Ogasawara

# Order MESOGASTROPODA

# Family CYCLOPHORIDAE

- Ex Cyclosurus mariei Mayotte
- Ex Cyclophorus horridulum Mayotte

#### Family POMATIASIDAE

- Ex Tropidophora carinata

  Mauritius; Réunion (1881)
- Ex Tropidophora desmazuresi Mauritius: Rodrigues
- Ex Tropidophora semilirata

  Mayotte

#### Family ACICULIDAE

Ex? Renea bourguignatiana France; Italy

#### Family HYDROBIIDAE

- Ex Bythinella intermedia
  Austria
- Ex Bythiospeum pfeifferi Austria
- Ex? Bythiospeum tschapecki
  Austria
- Ex? Iglica gratulabunda Austria
- Ex Lithoglyphus umbilicata (Clappia umbilicata) Umbilicate Pebblesnail USA
- Ex Ohridohauffenia drimica Yugoslavia (1980s)

Ex? Posticobia norfolkensis
Australia: Norfolk Island

#### Family ASSIMINEIDAE

- Ex Conacmella vagans Japan: Ogasawara
- Ex Omphalotropis plicosa
  Mauritius

#### Family PLEUROCERIDAE

- Ex Anculopsis anthonyix (Leptoxis anthonyix) Anthony's River Snail USA
- Ex Anculosa clipeata (Leptoxis clipeata) Agate Rocksnail USA
- Ex Anculosa formanii
  (Leptoxis formanii)
  Interrupted Rocksnail
  USA
- Ex Anculosa ligata (Leptoxis ligata) Rotund Rocksnail USA
- Ex Anculosa lirata (Leptoxis lirata) Lyrate Rocksnail USA
- Ex Anculosa occulata (Leptoxis occulata) Bigmouth Rocksnail USA
- Ex Aculopsis praerosa (Leptoxis praerosa) Onyx Rocksnail USA
- Ex Anculosa showalteri (Leptoxis showalteri) Coosa Rocksnail USA
- Ex Anculosa vittata (Leptoxis vittata) Striped Rocksnail USA
- Ex Goniobasis alabamensis (Elimia alabamensis) Mud Elimia USA

Ex Goniobasis clausa (Elimia clausa) Closed Elimia USA

Ex Goniobasis fusiformis (Elimia fusiformis) Fusiform Elimia USA

Ex Goniobasis hartmanniana
(Elimia hartmanniana)
High-spired Elimia
USA

Ex Goniobasis impressa (Elimia impressa) Constricted Elimia USA

Ex Goniobasis jonesi (Elimia jonesi) Hearty Elimia USA

Ex Goniobasis laeta (Elimia laeta) Ribbed Elimia USA

Ex Goniobasis pilsbryi (Elimia pilsbryi) Rough-lined Elimia USA

Ex Goniobasis pupaeformis
(Elimia pupaeformis)
Pupa Elimia
USA

Ex Goniobasis pygmaea
(Elimia pygmaea)
Pygmy Elimia
USA

Ex Goniobasis varians
(Elimia varians)
Puzzle Elimia
USA

Ex Gyrotoma excisa Excised Slitshell USA (1924)

Ex Gyrotoma lewisii Striate Slitshell USA (1924)

Ex Gyrotoma pagoda Pagoda Slitshell USA (1924) Ex Gyrotoma pumila Ribbed Slitshell USA (1924)

Ex Gyrotoma pyramidata Pyramid Slitshell USA (1924)

Ex Gyrotoma walkeri Round Slitshell USA (1924)

# Order STYLOMMATOPHORA

Family ACHATINELLIDAE

Ex? Achatinella abbreviata
USA: Hawaiian Islands (Oahu) (1963)

Ex Achatinella buddii
USA: Hawaiian Islands (Oahu) (early 1900s)

Ex Achatinella caesia USA: Hawaiian Islands (Oahu) (early 1900s)

Ex Achatinella casta
USA: Hawaiian Islands (Oahu)

Ex Achatinella decora
USA: Hawaiian Islands (Oahu) (early 1900s)

Ex? Achatinella dimorpha
USA: Hawaiian Islands (Oahu)

Ex? Achatinella elegans USA: Hawaiian Islands (Oahu) (1952)

Ex? Achatinella juddii
USA: Hawaiian Islands (Oahu) (1958)

Ex? Achatinella juncea
USA: Hawaiian Islands (Oahu)

Ex Achatinella lehuiensis USA: Hawaiian Islands (Oahu) (1922)

Ex Achatinella livida
USA: Hawaiian Islands (Oahu)

Ex Achatinella papyracea
USA: Hawaiian Islands (Oahu) (1945)

Ex? Achatinella rosea
USA: Hawaiian Islands (Oahu) (1949)

Ex Achatinella spaldingi USA: Hawaiian Islands (Oahu) (1938)

Ex Achatinella thaanumi USA: Hawaiian Islands (Oahu) (1900s)

Ex Achatinella valida
USA: Hawaiian Islands (Oahu) (1951)

Ex Achatinella vittata
USA: Hawaiian Islands (Oahu) (1953)

Ex? Amastra umbilicata Auriculella expansa Ex USA: Hawaiian Islands (Maui) USA: Hawaiian Islands (Molokai) Ex Auriculella uniplicata Carelia anceophila USA: Hawaiian Islands (Kauai) (1930) USA: Hawaiian Islands (Maui) Ex Lamellidea monodonta Ex Carelia bicolor USA: Hawaiian Islands (Kauai) (1970) Japan: Ogasawara Carelia cochlea Lamellidea nakadai Ex Ex USA: Hawaiian Islands (Kauai) Japan: Ogasawara Ex Ex Carelia cumingiana Newcombia philippiana USA: Hawaiian Islands (Molokai) USA: Hawaiian Islands (Kauai) (1930) Carelia dolei Ex Partulina crassa Ex USA: Hawaiian Islands (Lanai) (1914) USA: Hawaiian Islands (Kauai)  $\mathbf{F}_{\mathbf{Y}}$ Partulina montagui Ex Carelia evelynae USA: Hawaiian Islands (Oahu) (1913) USA: Hawaiian Islands (Kauai) Ex Perdicella fulgurans Ex Carelia glossema USA: Hawaiian Islands (Maui) USA: Hawaiian Islands (Kauai) (1930) Perdicella maniensis Ex Carelia hyattiana USA: Hawaiian Islands (Maui) USA: Hawaiian Islands (Kauai) Perdicella zebra Ex Ex Carelia kalalauensis USA: Hawaiian Islands (Maui) USA: Hawaiian Islands (Kauai) (1945/47) Ex? Perdicella zebrina Ex Carelia knudseni USA: Hawaiian Islands (Maui) USA: Hawaiian Islands (Kauai) (1930) Family AMASTRIDAE Ex Carelia lirata USA: Hawaiian Islands (Kauai) Amastra albolabris USA: Hawaiian Islands (Oahu) Ex Carelia lymani USA: Hawaiian Islands (Kauai) Fx Amastra cornea USA: Hawaiian Islands (Oahu) Ex Carelia mirabilis USA: Hawaiian Islands (Kauai) Amastra crassilabrum Ex USA: Hawaiian Islands (Oahu) Ex Carelia necra USA: Hawaiian Islands (Kauai) Ex? Amastra elongata USA: Hawaiian Islands Ex Carelia olivacea USA: Hawaiian Islands (Kauai) (1930) Ex? Amastra forbesi USA: Hawaiian Islands (Oahu) Ex Carelia paradoxa USA: Hawaiian Islands (Kauai) (1930) Ex Amastra pellucida USA: Hawaiian Islands (Oahu) Ex Carelia periscelis USA: Hawaiian Islands (Kauai) (1930) Ex Amastra porcus USA: Hawaiian Islands (Oahu) Ex Carelia pilsbryi USA: Hawaiian Islands (Kauai) Ex Amastra reticulata USA: Hawaiian Islands (Oahu) Ex Carelia sp. USA: Hawaiian Islands (Kauai) Ex Amastra subrostrata USA: Hawaiian Islands (Oahu) Ex Carelia sinclairi USA: Hawaiian Islands (Niihau) Ex Amastra subsoror USA: Hawaiian Islands (Maui) Fy Carelia tenebrosa USA: Hawaiian Islands (Kauai) (1930) Ex Amastra tenuispira USA: Hawaiian Islands (Oahu)

Ex Carelia turricula
USA: Hawaiian Islands (Kauai) (1930)
Family PUPILLIDAE
Ex? Leiostyla abbreviata
Portugal: Madeira (1870s)
Ex? Leiostyla cassida
Portugal: Madeira (1870s)
Ex? Leiostyla eibba

Ex? Leiostyla gibba Portugal: Madeira (1870s)

Ex? Leiostyla heterodon Portugal: Madeira

Ex? Leiostyla lamellosa Portugal: Madeira (1870s)

Ex? Leiostyla simulator
Portugal: Madeira (1870s)

Ex Pupilla obliquicosta (Pupa obliquicosta) Saint Helena (1870s)

Family VERTIGINIDAE

Ex Campolaemus perexilis Saint Helena (1870s)

Ex Gastrocopta chichijimana Japan: Ogasawara

Ex Gastrocopta ogasawarana Japan: Ogasawara

Ex Lyropupa perlonga USA: Hawaiian Islands

Ex Nesopupa turtoni Saint Helena (1870s)

Family CERASTUIDAE

Ex Rhachis comorensis
Mayotte

Ex Rhachis sanguineus Mauritius

Family PARTULIDAE

Ex Partula affinis
French Polynesia: Tahiti

Ex Partula approximata
French Polynesia: Raiatea

Ex Partula atilis
French Polynesia: Raiatea

Ex Partula attenuata
French Polynesia: Raiatea

Ex Partula aurantia
French Polynesia: Moorea

Ex Partula auriculata
French Polynesia: Raiatea

Ex Partula candida French Polynesia: Raiatea

Ex Partula castanea French Polynesia: Raiatea

Ex Partula cedistia French Polynesia: Raiatea

Ex Partula citrina French Polynesia: Raiatea

Ex Partula clara
French Polynesia: Tahiti

Ex Partula compacta
French Polynesia: Raiatea

Ex Partula crassilabris
French Polynesia: Raiatea

Ex Partula cuneata
French Polynesia: Raiatea

Ex Partula dolichostoma French Polynesia: Raiatea

Ex Partula exigua French Polynesia: Moorea (1977)

Ex Partula filosa
French Polynesia: Tahiti

Ex Partula formosa French Polynesia: Raiatea

Ex Partula fusea French Polynesia: Raiatea

Ex Partula garretti
French Polynesia: Raiatea

Ex Partula hyalina French Polynesia: Tahiti

Ex Partula imperforata
French Polynesia: Raiatea

Ex Partula leptochila
French Polynesia: Raiatea

Ex Partula levilineata
French Polynesia: Raiatea

Ex Partula levistriata
French Polynesia: Raiatea

Ex Partula lutea
French Polynesia: BoraBora

Ex Partula microstoma
French Polynesia: Raiatea

Ex Partula mirabilis French Polynesia: Moorea Ex Partula mooreana French Polynesia: Moorea Ex Partula nodosa French Polynesia: Tahiti Ex Partula otaheitana French Polynesia: Tahiti Ex Partula producta French Polynesia: Tahiti Ex Partula protea French Polynesia: Raiatea Ex Partula protracta French Polynesia: Raiatea Ex Partula radiata French Polynesia: Raiatea Ex Partula raiatensis French Polynesia: Raiatea Ex Partula remota French Polynesia: Raiatea Ex Partula rustica French Polynesia: Raiatea Ex Partula salifana Mount Alifana Partula Guam Ex Partula suturalis Sutural Partula French Polynesia: Moorea Ex Partula taeniata French Polynesia: Moorea Ex Partula thalia French Polynesia: Raiatea Ex Partula tohiveana French Polynesia: Moorea Ex Partula tristis French Polynesia: Raiatea Ex Partula turgida French Polynesia: Raiatea Ex Partula variabilis French Polynesia: Raiatea Ex Partula vittata French Polynesia: Raiatea Ex Samoana abbreviata

American Samoa (1940)

# Family ORTHALICIDAE Ex Aspastus loyaltiensis

(Leuchocharis loyaltiensis) New Caledonia (1900s)

Ex Aspastus porphyrocheila (Leuchocharis porphyrocheila) New Caledonia (1900s)

# Family FERUSSACIIDAE

Ex? Amphorella iridescens Portugal: Madeira

Ex? Cecilioides eulima
Portugal: Madeira (1870s)

# Family SUBULINIDAE

Ex Chilonopsis blofeldi Saint Helena (1870s)

Ex Chilonopsis exulatus Saint Helena (1870s)

Ex Chilonopsis helena Saint Helena (1870s)

Ex? Chilonopsis melanoides Saint Helena (1870s)

Ex Chilonopsis nonpareil Saint Helena (1870s)

Ex Chilonopsis subplicatus Saint Helena (1870s)

Ex Chilonopsis subtruncatus Saint Helena (1870s)

Ex Chilonopsis turtoni Saint Helena (1870s)

#### Family STREPTAXIDAE

Ex Edentulina thomasetti Seychelles (1908)

Ex Gibbus lyonetianus Mauritius (1905)

Ex Gonidomus newtoni Mauritius (1867)

Ex Gonospira nevilli Mauritius

Ex? Gulella antelmiana Mauritius

Ex Gulella mayottensis
Mayotte

#### Family ENDODONTIDAE

Ex Hirasea biconcava Japan: Ogasawara

Ex	Hirasea eutheca Japan: Ogasawara	Ex	Mautodontha zebrina Cook Islands: Raratonga (1880s)
Ex	Hirasea goniobasis Japan: Ogasawara	Ex	Opanara altiapica French Polynesia: Rapa (1934)
Ex	Hirasea hypolia Japan: Ogasawara	Ex	Opanara areaensis French Polynesia: Rapa (1934)
Ex	Hirasea major Japan: Ogasawara	Ex	Opanara bitridentata French Polynesia: Rapa (1934)
Ex	Hirasea nesiotica Japan: Ogasawara	Ex	Opanara caliculata French Polynesia: Rapa (1934)
Ex	Hirasea planulata Japan: Ogasawara	Ex	Opanara depasoapicata French Polynesia: Rapa (1934)
Ex	Hirasea sinuosa Japan: Ogasawara	Ex	Opanara duplicidentata French Polynesia: Rapa (1934)
Ex	Hirasea clara (Hirasiella clara)	Ex	Opanara fosbergi French Polynesia: Rapa (1934)
Ex	Japan: Ogasawara  Kondoconcha othnius	Ex	Opanara megomphala French Polynesia: Rapa (1934)
Ex	French Polynesia: Rapa (1934)  Libera subcavernula	Ex	Opanara perahuensis French Polynesia: Rapa (1934)
Ex	Cook Islands: Raratonga (1880s)  Libera tumuloides	Ex	Orangia cookei French Polynesia: Rapa (1934)
Ex	Cook Islands: Raratonga (1880s)  Mautodontha acuticosta	Ex	Orangia maituatensis French Polynesia: Rapa (1934)
Ex	French Polynesia: Raiatea (1880s)  Mautodontha boraborensis	Ex	Orangia sporadica French Polynesia: Rapa (1934)
Ex	French Polynesia: Borabora (1880s)  Mautodontha ceuthma  French Polynesia: Raivavae (1880s)	Ex	Ptychodon dianae (Pseudohelenoconcha dianae) Saint Helena (1870s)
Ex	Mautodontha consimilis French Polynesia: Raiatea (1880s)	Ex	Ptychodon laetissima (Pseudohelenoconcha laetissima)
Ex	Mautodontha consobrina French Polynesia: Huahine (1880s)	Ex	Saint Helena (1870s)  Ptychodon persoluta
Ex	Mautodontha maupiensis French Polynesia: Maupiti (1880s)	(Pseudohelenoconcha persoluta) Saint Helena (1870s)	
Ex	Mautodontha parvidens French Polynesia: Society Islands (1880s)	Ex	Ptychodon spurca (Pseudohelenoconcha spurca) Saint Helena (1870s)
Ex	Mautodontha punctiperforata French Polynesia: Moorea (1880s)	Ex	Rhysoconcha atanuiensis French Polynesia: Rapa (1934)
Ex	Mautodontha saintjohni French Polynesia: Borabora (1880s)	Ex	Rhysoconcha variumbilicata French Polynesia: Rapa (1934)
Ex	Mautodontha subtilis French Polynesia: Huahine (1880s)	Ex	Ruatara koarana French Polynesia: Rapa (1934)
Ex	Mautodontha unilamellata Cook Islands: Raratonga (1880s)	Ex	Ruatara oparica French Polynesia: Rapa (1934)

Ex Taipidon anceyana French Polynesia: Hiva Oa (1880s)

Ex Taipidon marquesana French Polynesia: Nuku Hiva (1880s)

Ex Taipidon octolamellata French Polynesia: Hiva Oa (1880s)

Ex Thaumatodon multilamellata Cook Islands: Rarotonga (1880s)

Family CHAROPIDAE

Ex Helenoconcha leptalea Saint Helena (1870s)

Ex Helenoconcha minutissima Saint Helena (1870s)

Ex Helenoconcha polyodon Saint Helena (1870s)

Ex Helenoconcha pseustes Saint Helena (1870s)

Ex Helenoconcha sexdentata Saint Helena (1870s)

Ex Helenodiscus bilamellata Saint Helena (1870s)

Ex Helenodiscus vernoni Saint Helena (1870s)

Ex Sinployea canalis Cook Islands: Rarotonga (1872)

Ex Sinployea decorticata

Cook Islands: Rarotonga (1872)

Ex Sinployea harveyensis Cook Islands: Rarotonga (1872)

Ex Sinployea otareae Cook Islands: Rarotonga (1872)

Ex Sinployea planospira Cook Islands: Rarotonga (1872)

Ex Sinployea proxima Cook Islands: Rarotonga (1872)

Ex Sinployea rudis Cook Islands: Rarotonga (1872)

Ex Sinployea tenuicostata Cook Islands: Rarotonga (1872)

Ex Sinployea youngi Cook Islands: Rarotonga (1872)

Family DISCIDAE

Ex? Discus guerinianus Portugal: Madeira (1870s) Family SUCCINEIDAE

Ex Succinea guamensis
Guam

Family HELIXARIONIDAE

Ex? Caldwellia philyrina
Mauritius

Ex Ctenoglypta newtoni Mauritius (1871)

Ex? Erepta stylodon Mauritius

Ex Erepta nevilli Mauritius

Ex Harmogenanina linophora Mauritius; Réunion

Ex Harmogenanina subdetecta Réunion

Ex Pachystyla rufozonata Mauritius (1869)

Family ARIOPHANTIDAE

Ex Colparion madgei
Mauritius: Rodrigues (1938)

Ex Vitrinula chaunax Japan: Ogasawara

Ex Vitrinula chichijimana Japan: Ogasawara

Ex Vitrinula hahajimana Japan: Ogasawara

Family CAMAENIDAE

Ex Mandarina luhuana Japan: Ogasawara

Family HELICIDAE

Ex Chilostoma ziegleri Austria

Ex? Discula lyelliana Portugal: Madeira (1870s)

Ex? Discula tetrica
Portugal: Madeira (1870s)

Ex? Geomitra delphinuloides Portugal: Madeira (1870s)

Ex? Pseudocampylaea lowei
Portugal: Madeira (Porto Santo) (late 19th C)

Family ARIONIDAE

Ex Arion simrothi Germany Class BIVALVIA

Order UNIONIDA

Family UNIONIDAE

Ex Alasmidonta robusta
Cardina Elktoe
USA

Ex? Dysnomia arcaeformis? (Epioblasma arcaeformis?) Sugarspoon USA (1940s)

Ex Dysnomia biemarginata (Epioblasma biemarginata) Angled Riffleshell USA (1960s)

Ex Dysnomia flexuosa (Epioblasma flexuosa) Leafshell USA (1940s)

Ex Dysnomia haysiana
(Epioblasma haysiana)
Acomshell
USA

Ex Dysnomia lefevrei (Epioblasma lefevrei) USA

Ex Dysnomia lenior (Epioblasma lenior) Narrow Catspaw USA (1965)

Ex? Dysnomia lewisii? (Epioblasma lewisii?) Forkshell USA (1964)

Ex Dysnomia personata
(Epioblasma personata)
Round Combshell
USA (1930)

Ex Dysnomia propinqua (Epioblasma propinqua) Tennessee Riffleshell USA (1930)

Ex Dysnomia sampsoni (Epioblasma sampsoni) Wabash Riffleshell USA (1950s/60s)

Ex Dysnomia stewardsoni
(Epioblasma stewardsoni)
Cumberland Leafshell
USA (1930)

# Phylum ARTHROPODA

Class CRUSTACEA

Order AMPHIPODA

Family PARAMELITIDAE

Ex? Austrogammarus australis
Australia: Melbourne, Victoria

Family CRANGONYCTIDAE

Ex Stygobromus lucifugus Rubious Cave Amphipod USA

Order DECAPODA

Family ATYIDAE

Syncaris pasadenas
Pasadena Freshwater Shrimp
USA (1933)

Family ASTACIDAE

Ex? Pacifastacus nigrescens Sooty Crayfish USA (1860s)

Class INSECTA

Order EPHEMEROPTERA

Family SIPHLONURIDAE

Ex Acanthometropus pecatonica Pecatonica River Mayfly USA (1927)

Family EPHEMERIDAE

Ex Pantagenia robusta
Robust Burrowing Mayfly
USA

Order ODONATA

Family COENAGRIONIDAE

Ex? Megalagrion jugorum

Jugorum Megalagrion Damselfly

USA: Hawaiian Islands

Family GOMPHIDAE

Ex? Ophiogomphus edmundo
Edmund's Snaketail Dragonfly
USA

Family LIBELLULIDAE

Ex? Sympetrum dilatatum Saint Helena Order ORTHOPTERA

Family TETTIGONIIDAE

Ex Neduba extincta
Antioch Dunes Shieldback Katydid
USA (1937)

Order PHASMATOPTERA

Family PHASMATIDAE

Ex? Dryococelus australis

Lord Howe Island Stick-insect

Australia: Lord Howe Island, Ball's Pyramid
(1970s)

Order PLECOPTERA

Family CHLOROPERLIDAE

Ex Alloperla roberti Robert's Stonefly USA

Order HOMOPTERA

Family PSEUDOCOCCIDAE

Ex Clavicoccus erinaceus USA: Hawaiian Islands

Ex Phyllococcus oahuensis USA: Hawaiian Islands

Order COLEOPTERA

Family CARABIDAE

Mecodema punctellum

New Zealand: Stephens Island

Family DYTISCIDAE

Ex? Hygrotus artus

Mono Lake Diving Beetle

USA

Ex? Megadytes ducalis
Brazil

Ex? Rhantus alutaceus New Caledonia

Ex? Rhantus novacaledoniae New Caledonia

Ex? Rhantus orbignyi Argentina; Brazil

Ex? Rhantus papuanus
Papua New Guinea

Ex? Siettitia balsetensis
Perrin's Cave Beetle
France

Family CERAMBYCIDAE

Ex Xylotoles costatus

New Zealand: Chatham Island (1930s)

Family CURCULIONIDAE

Ex Dryophthorus distinguendus USA: Hawaiian Islands

Ex Dryotribus mimeticus
USA: Hawaiian Islands

Ex? Hadramphus tuberculatus New Zealand (1910)

Ex Macrancylus linearis
USA: Hawaiian Islands

Ex Oedemasylus laysanensis USA: Hawaiian Islands

Ex? Pentarthrum blackburni Blackburn's Weevil USA: Hawaiian Islands

> Rhyncogonus bryani USA: Hawaiian Islands

Ex? Trigonoscuta rossi
Fort Ross Weevil
USA

Ex? Trigonoscuta yorbalindae Yorba Linda Weevil USA

Order DIPTERA

Family TABANIDAE

Ex Stonemyia volutina
Volutine Stoneyian Tabanid Fly
USA

Family DOLICHOPODIDAE

Ex Campsicnemus mirabilis USA: Hawaiian Islands

Family DROSOPHILIDAE

Ex Drosophila lanaiensis
USA: Hawaiian Islands

Order TRICHOPTERA

Family RHYACOPHILIDAE

Ex Rhyacophila amabilis
Castle Lake Caddisfly
USA

Family HYDROPSYCHIDAE

Hydropsyche tobiasi Tobias' Caddisfly Germany (1920s)

#### Family LEPTOCERIDAE

Ex Triaenodes phalacris
Athens Caddisfly
USA

Ex Triaenodes tridonata
Three-tooth Caddisfly
USA

#### Order LEPIDOPTERA

# Family NEPTICULIDAE

Ex? Ectodemia castaneae
American Chestnut Moth
USA

Ex? Ectodemia phleophaga
Phleophagan Chestnut Moth
USA

#### Family TISCHERIIDAE

Ex? Tischeria perplexa
Chestnut Clearwing Moth
USA

## Family COLEOPHORIDAE

Ex? Coleophora leucochrysella USA

#### Family ARGYRESTHIIDAE

Ex? Argyresthia castaneela Chestnut Ermine Moth USA

# Family ZYGAENIDAE

Levuana irridescens Levuana Moth USA: Hawaiian Islands (1929)

#### Family LYCAENIDAE

Ex Deloneura immaculata South Africa

Ex Glaucopsyche xerces Xerces Blue USA (early 1940s)

Ex Lepidochrysops hypopolia South Africa

### Family LIBYTHEIDAE

Ex Libythea cinyras Mauritius (1865)

#### Family PYRALIDAE

Genophantis leahi

USA: Hawaiian Islands (Oahu) (early 1900s)

Hedylepta asaphrombra USA: Hawaiian Islands (1970s)

Hedylepta continuatalis
USA: Hawaiian Islands (1958)

Hedylepta epicentra
USA: Hawaiian Islands (Oahu) (early 1900s)

Hedylepta euryprora
USA: Hawaiian Islands (Hawaii)

Hedylepta fullawayi
USA: Hawaiian Islands (Hawaii)

Hedylepta laysanensis USA: Hawaiian Islands (Laysan)

Hedylepta meyricki USA: Hawaiian Islands (Hawaii)

Hedylepta musicola USA: Hawaiian Islands (Maui, Molokai)

Hedylepta telegrapha
USA: Hawaiian Islands (Hawaii)

Oeobia sp. USA: Hawaiian Islands (Laysan) (1911)

#### Family GEOMETRIDAE

Ex? Scotorythra megalophylla Kona Giant Looper Moth USA: Hawaiian Islands (Hawaii) (early 1900s)

Ex? Scotorythra nesiotes
Ko'olau Giant Looper Moth
USA: Hawaiian Islands (Oahu) (early 1900s)

Ex? Scotorythra paratactis
Hawaiian Hopseed Looper Moth
USA: Hawaiian Islands (Oahu) (early 1900s)

Ex? Tritocleis microphylla
Ola'a Peppered Looper Moth
USA: Hawaiian Islands (Hawaii) (1890s)

# Family SPHINGIDAE

Ex? Tinostoma smaragditis
Fabulous Green Sphinx of Kauai
USA: Hawaiian Islands

#### Family NOCTUIDAE

Ex? Agrotis crinigera
Poko Noctuid Moth
USA: Hawaiian Islands (1926)

Ex Agrotis fasciata
Midway Noctuid Moth
USA: Hawaiian Islands (Midway)

#### **EXTINCT SPECIES**

- Ex? Agrotis kerri

  Kerr's Noctuid Moth

  USA: Hawaiian Islands (French Frigate
  Shoals) (1923)
- Ex Agrotis laysanensis
  Laysan Noctuid Moth
  USA: Hawaiian Islands (Laysan) (1911)
- Ex Agrotis photophila
  USA: Hawaiian Islands
- Ex Agrotis procellaris
  USA: Hawaiian Islands (pre 1900)
- Ex? Helicoverpa confusa
  Confused Moth
  USA: Hawaiian Islands (post 1927)

- Ex Helicoverpa minuta
  Minute Noctuid Moth
  USA: Hawaiian Islands (Lisianski) (pre 1911)
- Ex Hypena laysanensis

  Laysan Dropseed Noctuid Moth
  USA: Hawaiian Islands (1911)
- Ex? Hypena newelli
  Hilo Noctuid Moth
  USA: Hawaiian Islands (Hawaii)
- Ex? Hypena plagiota
  Lovegrass Noctuid Moth
  USA: Hawaiian Islands (Kauai, Oahu)
- Ex? Hypena senicula Kaholuamano Noctuid Moth USA: Hawaiian Islands (Kauai)

# List 3

# THREATENED GENERA (etc)



# Class ACTINOPTERYGII

#### Order PERCIFORMES

## Family CICHLIDAE

- I Haplochromine spp. (> 250 spp.)
   Lake Victoria cichlid fishes
   (Lake Victoria)
   Kenya; Tanzania; Uganda
- I Tilapiine spp. (2 spp.)
  Lake Victoria cichlid fishes
  (Lake Victoria)
  Kenya; Tanzania; Uganda

# Phylum ANNELIDA

#### Class OLIGOCHAETA

#### Order HAPLOTAXIDA

#### Family MICROCHAETIDAE

- V Microchaetus (23 species) South African Giant Earthworms South Africa
- V Proandricus (17 species) South African Giant Earthworms South Africa
- V Tritogenia (approx. 13 species) South African Giant Earthworms South Africa

#### Family ACANTHODRILIDAE

- V Chilota (13 species)
  Southern African Acanthodriline Earthworms
  South Africa
- V Diplotrema (15 species)
  Southern African Acanthodriline Earthworms
  South Africa
- V Microscolex (3 species)
   Southern African Acanthodriline Earthworms
   Lesotho; South Africa
- V Udeina (59 species)
   Southern African Acanthodriline Earthworms
   Lesotho; South Africa

# Phylum ARTHROPODA

## Class INSECTA

# Order COLEOPTERA

### Family ELATERIDAE

- E Eopenthes (17 species)
  Hawaiian Click Beetles
  USA: Hawaiian Islands
- I Itodacnus spp.
  Necker Click Beetles
  USA: Hawaiian Islands

# Family CERAMBYCIDAE

E *Plagithmysus* (49 species) USA: Hawaiian Islands

# Family AGLYCYDERIDAE

E Proterhinus (72 species)
Hawaiian Proterhinus Beetles
USA: Hawaiian Islands

#### Family CURCULIONIDAE

- I Oodemas (whole genus)
  Windward Chain Weevils
  USA: Hawaiian Islands
- E Rhyncogonus (22 species)
  (at least one species extinct)
  Hawaiian Snout Beetles
  USA: Hawaiian Islands

#### Order LEPIDOPTERA

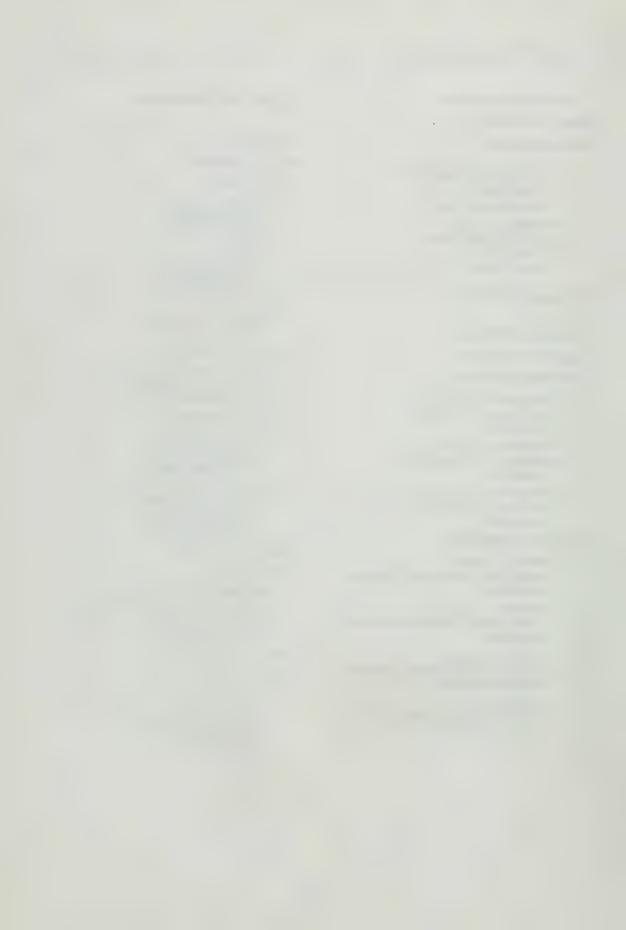
#### Family PYRALIDAE

I Hedylepta (14 species)
(some species listed in extinct section)
Hedyleptan Moths
USA: Hawaiian Islands

#### Order HYMENOPTERA

#### Family COLLETIDAE

I Hylaeus (64 species)
(Nesoprosopis)
(some species probably extinct)
Yellow-faced Bee
USA: Hawaiian Islands



# List 4

# THREATENED AND EXTINCT SUBSPECIES



#### Class MAMMALIA

# Order CHIROPTERA

#### Family PTEROPODIDAE

V Pteropus seychellensis aldabrensis Aldabra Flying-fox Seychelles: Aldabra Atoll

#### Family VESPERTILIONIDAE

- I Lasiurus cinereus semotus Hawaiian Hoary Bat USA: Hawaiian Islands
- K Myotis formosus bartelsi (M. bartelsi)
   Bartel's Myotis
   Indonesia: Java
- R Myotis formosus hermani
  (M. hermani)
  Herman's Myotis
  Indonesia: Sumatra

#### Order PRIMATES

#### Family LEMURIDAE

- E Hapalemur griseus alaotrensis Alaotran Gentle Lemur Madagascar
- K Hapalemur griseus griseus Grey Gentle Lemur Madagascar
- V Hapalemur griseus occidentalis Western Gentle Lemur Madagascar
- R Eulemur fulvus albifrons
  White-fronted Lemur
  Madagascar
- V Eulemur fulvus albocollaris White-collared Lemur Madagascar
- V Eulemur fulvus collaris Collared Lemur Madagascar
- R Eulemur fulvus fulvus Brown Lemur Madagascar
- V Eulemur fulvus mayottensis Mayotte Lemur Mayotte

- R Eulemur fulvus rufus (E. macaco rufus) Red-fronted Lemur Madagascar
- V Eulemur fulvus sanfordi (E. macaco sanfordi) Sanford's Lemur Madagascar
- E Eulemur macaco flavifrons Sclater's Lemur Madagascar
- V Eulemur macaco macaco Black Lemur Madagascar

## Family CALLITRICHIDAE

- E Callithrix argentata leucippe
  Golden-white Bare-ear Marmoset
  Brazil
- E Saguinus bicolor bicolor Pied Tamarin Brazil
- V Saguinus fuscicollis leucogenys Andean Saddle-back Tamarin Peru
- V Saguinus imperator imperator Black-chinned Emperor Tamarin Bolivia; Brazil; Peru

#### Family CEBIDAE

- E Alouatta fusca fusca
  Northern Brown Howling Monkey
  Brazil
- E Aloutta belzebul ululata Red-handed Howling Monkey Brazil
- E Aloutta palliata aequatorialis South Pacific Blackish Howling Monkey Colombia; Ecuador; Panama?; Peru
- V Aotos lemurinus griseimembra Night Monkey Colombia
- E Ateles belzebuth hybridus Hybrid Spider Monkey Colombia: Venezuela
- E Ateles belzebuth marginatus
  White-whiskered Spider Monkey
  Brazil

- V Callicebus cupreus ornatus Omate Titi Colombia
- Callicebus personatus barbarabrownae E Northern Bahian Blond Titi Brazil
- Ē Callicebus personatus melanochir Southern Bahian Masked Titi Brazil
- Ē Callicebus personatus nigrifrons Black-fronted Titi Brazil
- E Callicebus personatus personatus Northern Masked Titi Brazil
- Callicebus torquatus lucifer Widow Monkey Brazil: Colombia: Peru
- $\mathbf{v}$ Cebus albifrons cuscinus White-fronted Capuchin Bolivia?: Peru
- V Cebus albifrons yuracus Andean White-fronted Capuchin Ecuador, Peru
- Cebus apella robustus Robust Tufted Capuchin Brazil
- E Cebus apella xanthosternos Yellow-breasted Capuchin Monkey Brazil
- Ē Chiropotes satanas satanas Black Saki Brazil
- Chiropotes satanas utahicki Uta Hick's Bearded Saki Brazil
- E Lagothrix lagotricha lugens Colombian Woolly Monkey Colombia

#### Family CERCOPITHECIDAE

- K Cercocebus albigena aterrimus (C. aterrimus) Black Mangabey Angola: Zaire
- E Cercocebus galeritus galeritus Tana River Mangabey Kenya; Tanzania

- Cercocebus galeritus 'sanjei' E Sanie Mangabey Tanzania
- Cercocebus torquatus torquatus Collared Mangabey Cameroon; Congo; Côte d'Ivoire; Equatorial Guinea: Rio Muni: Gabon: Ghana: Guinea; Liberia; Nigeria; Senegal; Sierra Leone
- $\mathbf{E}$ Cercopithecus diana roloway Roloway Guenon Côte d'Ivoire; Ghana; Togo
- Macaca ochreata brunnescens (M. brunnescens) Muna-Butung Macaque Indonesia: Butung, Muna
- E Macaca fuscata yakui Yakushima Macaque Japan
- $\mathbf{E}$ Macaca nemestrina pagensis (M. pagensis) Mentawai Macaque Indonesia: Mentawai Islands, Siberut, Sipora, North and South Pagai Islands
- Macaca tonkeana hecki (M. hecki) Heck's Macaque Indonesia: Sulawesi

K

- Papio hamadryas papio (P. papio) Guinea Baboon Gambia; Guinea; Guinea-Bissau?; Liberia?; Mali; Mauritania; Senegal; Sierra Leone
- R Procolobus badius temminckii (Procolobus temminckii) (Procolobus badius has been included in the genus Colobus) Temminck's Red Colobus Gambia; Guinea; Guinea-Bissau; Senegal
- E Procolobus badius waldroni Miss Waldron's Bay Colobus Côte d'Ivoire: Ghana
- E Procolobus badius pennantii (P. pennantii) Eastern Red Colobus Equatorial Guinea: Fernando Po
- E Procolobus badius bouvieri (P. pennantii bouvieri) Bouvier's Red Colobus Congo

K Procolobus badius ellioti

(P. rufomitratus ellioti)

Elliot's Red Colobus

Uganda (ex?); Zaire

K Procolobus badius foai

(P. rufomitratus foai, P. pennantii foai)

Foa Red Colobus

Zaire

E Procolobus badius gordonorum

(P. gordonorum, P. pennantii gordonorum)

Uhehe Red Colobus

Tanzania

E Procolobus badius kirkii

(Procolobus kirkii, P. pennantii kirkii)

Zanzibar Red Colobus

Tanzania: Zanzibar

Tanzania: [Pemba Island]

K Procolobus badius oustaleti

(P. rufomitratus oustaleti, P. pennantii oustaleti)

Oustalet's Red Colobus

Central African Republic; Sudan?; Zaire

V Procolobus badius tephrosceles

(P. rufomitratus tephrosceles, P. pennantii

tephrosceles)

Uganda Red Colobus

Burundi; Rwanda; Tanzania; Uganda

K Procolobus badius tholloni

(P. rufomitratus tholloni, P. pennantii tholloni)

Thollon's Red Colobus

Zaire

E Procolobus badius preussi

(P. preussi, P. pennanti preussi)

Preuss's Colobus

Cameroon; Nigeria (ex?)

V Procolobus badius rufomitratus

(P. rufomitratus, P. rufomitratus rufomitratus)

Tana River Colobus

Kenya

E Pygathrix roxellana bieti

(Pygathrix bieti, sometimes included in

Rhinopithecus)

Yunnan Snub-nosed Monkey

China

Family HOMINIDAE

E Gorilla gorilla beringei

Mountain Gorilla

Burundi (ex?); Rwanda; Uganda; Zaire:

Virunga Volcano region

E Pan troglodytes verus

West African Chimpanzee

Côte d'Ivoire; Ghana; Guinea; Guinea-Bissau

(ex?); Liberia; Mali; Senegal; Sierra Leone [Gambia]

Order CARNIVORA

Family FELIDAE

E Acinonyx jubatus venaticus

Asiatic Cheetah

Iran

R Caracal caracal michaelis

(Lynx caracal michaelis, Felis caracal michaelis)

Turkmenian Caracal

Kazakhstan; Tajikistan; Turkmenia; Uzbekistan

E Felis margarita scheffeli

Pakistan Sand Cat

Pakistan

E Prionailurus bengalensis iriomotensis

(Prionailurus iriomotensis, sometimes included

in Felis)

Iriomote Cat

Japan: Iriomote Island

E Panthera leo persica

Asiatic Lion

India

E Panthera pardus orientalis

Amur Leopard

China; D.P.R. Korea; Korea Republic; Russia

E Panthera pardus nimr

South Arabian Leopard

Oman; Saudi Arabia; Yemen

E Panthera pardus kotiya

Sri Lankan Leopard

Sri Lanka

V Panthera pardus japonensis

North Chinese Leopard

China

I Panthera pardus saxicolor

North Persian Leopard

Afghanistan; Iran; Turkmenistan

I Panthera pardus melas

Javan Leopard

Indonesia: Java

E Puma concolor coryi

(Felis concolor corvi)

Florida Cougar

**USA** 

E Puma concolor couguar (Felis concolor cougar) Eastern Puma Canada; USA

# Family HERPESTIDAE

E Bdeogale crassicauda omnivora
 Sokoke Bushy-tailed Mongoose
 Kenya; Tanzania

# Family HYAENIDAE

E Hyaena hyaena barbara
Barbary Hyaena
Algeria; Morocco; Tunisia

#### Family MUSTELIDAE

- Ex? Conepatus mesoleucus telmalestes
  Big Thicket Hog-nosed Skunk
  USA: Texas
- E Eira barbara senex
  Greyheaded Tayra
  Belize; Guatemala; Mexico
- V Lutra longicaudis longicaudis
   (L. platensis, also assigned to Lontra)
   La Plata Otter
   Argentina; Bolivia; Brazil; Paraguay?; Uruguay
- V Lutra lutra lutra European Otter Eurasia
- E Martes flavigula robinsoni
  Javan Yellow-throated Marten
  Indonesia: Java
- R Martes melampus tsuensis
  Tsushima Island Marten
  Japan
- K Melogale personata orientalis
   (M. orientalis)
   Javan Ferret-badger
   Indonesia: Java
- I Martes zibellina brachyura Japanese Sable Japan: Hokkaido
- V Vormela peregusna peregusna
  European Marbled Polecat
  Bulgaria; Greece; Romania; Turkey; Ukraine;
  Yugoslavia

#### Family ODOBENIDAE

K Odobenus rosmarus laptevi
 Laptev Walrus
 Russia

# Family OTARIIDAE

Ex Zalophus californianus japonicus Japanese Sealion Japan; D.P.R. Korea; Korea Republic

#### Family PHOCIDAE

- V Phoca hispida botnica

  Baltic Ringed Seal

  Estonia?; Finland; Russia; Sweden
- V Phoca hispida ladogensis Ladoga Ringed Seal Russia: Lake Ladoga
- E Phoca hispida saimensis Saimaa Ringed Seal Finland: Lake Saimaa
- K Phoca vitulina mellonae Ungava Seal Canada; Greenland
- V Phoca vitulina stejnegeri Kuril Seal Kuril Sea

#### Family URSIDAE

- E Selenarctos thibetanus gedrosianus (Ursus thibetanus gedrosianus) Baluchistan Bear Iran; Pakistan
- Ex Ursus arctos nelsoni Mexican Grizzly Bear Mexico; USA

#### Family VIVERRIDAE

- I Arctictis binturong whitei Palawan Binturong Philippines: Palawan
- E Arctogalidia trivirgata trilineata
  Javan Small-toothed Palm Civet
  Indonesia: Java
- I Crossarchus ansorgei ansorgei Angolan Cusimanse Angola
- R Genetta genetta isabelae Ibiza Genet Spain: Ibiza
- E Paradoxurus hermaphroditus lignicolor (P. lignicolor) Mentawai Palm Civet Indonesia: Sumatra
- I Poiana richardsoni liberiensis
  Leighton's Linsang
  Liberia; Côte d'Ivoire; Sierra Leone

E Viverra megaspila civettina (V. civettina) Malabar Large-spotted Civet India: Kerala

Order PERISSODACTYLA

Family EQUIDAE

Ex? Equus ferus przewalskii

(E. caballus przewalskii, E. przewalskii)

Przewalski's Horse

China; Mongolia

Ex? Equus hemionus hemionus North Mongolian Kulan Mongolia

Ex Equus hemionus hemippus
Syrian Wild Ass
Iran; Iraq; Israel; Saudi Arabia; Syria

E Equus hemionus khur Indian Wild Ass India

E Equus hemionus kulan Kulan Kazakhstan; Turkmenistan

I Equus hemionus luteus Gobi Kulan China; Mongolia

E Equus hemionus onager
Onager
Iran

V Equus kiang holderi Eastern Kiang China

I Equus kiang kiang
Western Kiang
India; Nepal

I Equus kiang polyodon Southern Kiang China; India: Sikkim

E Equus zebra zebra
Cape Mountain Zebra
South Africa

Family RHINOCEROTIDAE

E Ceratotherium simum cottoni
Northern White Rhinoceros
Zaire

# Order ARTIODACTYLA

Family SUIDAE

V Hylochoerus meinertzhageni ivoriensis Western Forest Hog West Africa

Ex Phacochoerus aethiopicus aethiopicus Cape Warthog South Africa: Cape Province

V Phacochoerus aethiopicus delameri Somali Warthog Kenya; Somalia

I Phacochoerus africanus aeliani Eritrean Warthog Djibouti; Eritrea

R Sus barbatus ahoenobarbus
Palawan Bearded Pig
Philippines: Balabac, Palawan, Calamian
Islands

V Sus barbatus oi
 Western Bearded Pig
 Indonesia: Sumatra, Kundur, Ungar Islands;
 Malaysia

V Sus scrofa riukiuanus Ryukyu Islands Wild Pig Japan: Ryukyu Islands

Family HIPPOPOTAMIDAE

Ex Hexaprotodon liberiensis heslopi Nigeria

Family TRAGULIDAE

V Tragulus napu nigricans
Balabac Chevrotain
Philippines: Balabac Island

Family CERVIDAE

E Cervus elaphus yarkandensis Yarkand Deer China

E Cervus eldii eldii
Manipur Brow-antlered Deer India

E Cervus eldii siamensis
Thailand Brow-antlered Deer
Cambodia; China (ex?); Laos; Thailand;
Viet Nam

- Ex? Cervus nippon grassianus Shansi Sika China
- E Cervus nippon keramae Ryukyu Sika Japan: Ryukyu Islands
- E Cervus nippon mandarinus North China Sika China
- E Cervus nippon pseudaxis (C. n. kopschi) South China Sika China; Viet Nam
- I Cervus nippon sichanicus Sichuan Sika China
- E Cervus nippon taiouanus Formosan Sika Taiwan (ex?) [Japan: Oshima Island]
- R Odocoileus hemionus cerrosensis Cedros Island Mule Deer Mexico: Cedros Island
- E Odocoileus virginianus clavium Key Deer USA: Florida Keys
- E Ozotoceros bezoarticus celer Argentinian Pampas Deer Argentina
- E Rangifer tarandus pearyi Peary Caribou Canada

#### Family ANTILOCAPRIDAE

- E Antilocapra americana peninsularis Baja California Pronghom Mexico
- E Antilocapra americana sonoriensis Sonoran Pronghorn Mexico; USA

#### Family BOVIDAE

- E Aepyceros melampus petersi
   Black-faced Impala
   Angola; Namibia
- Ex Alcelaphus buselaphus Bubal Hartebeest
  Algeria; Egypt; Morocco; Tunisia

- E Alcelaphus buselaphus swaynei Swayne's Hartebeest Ethiopia
- E Alcelaphus buselaphus tora
  Tora Hartebeest
  Eritrea?; Ethiopia; Sudan
- Ex Ammotragus lervia ornatus Egyptian Barbary Sheep Egypt
- E Budorcas taxicolor bedfordi Golden Takin China
- I Budorcas taxicolor taxicolor Mishmi Takin Bhutan; China; India; Myanmar
- K Budorcas taxicolor tibetana Sichuan Takin China
- K Budorcas taxicolor whitei Bhutan Takin Bhutan; China; India
- R Capra aegagrus blythi Sind Ibex Pakistan
- E Capra aegagrus chialtanensis Chiltan Goat Pakistan
- R Capra aegagrus cretica Cretan Goat Greece
- R Capra aegagrus turcmenica Turkman Wild Goat Turkmenistan
- E Capra pyrenaica pyrenaica
  Pyrenean Ibex
  Spain
- R Capra pyrenaica victoriae Gredos Ibex Spain
- E Capricornis sumatraensis sumatraensis Sumatran Serow Indonesia: Sumatra; Malaysia
- R Cephalophus ogilbyi crusalbum White-legged Duiker Congo?; Gabon
- E Cephalophus nigrifrons rubidus Ruwenzori Black-fronted Duiker Uganda; Zaire?

Damaliscus dorcas dorcas T Ovis ammon ammon R Bontebok Altai Argali China; Mongolia; Russia South Africa Ovis ammon darwini Damaliscus lunatus korrigum Ε Mongolian Argali, Gobi Argali Korrigum China; Mongolia Benin: Burkina Faso; Cameroon; Niger; Nigeria; Togo Ι Ovis ammon hodgsoni Ex? Gazella dorcas saudiva Tibetan Argali China; India; Nepal Saudi Gazelle Iraq?: Kuwait?: Saudi Arabia?: United Arab E Ovis ammon jubata Emirates?; Yemen? Shansi Argali, Northern Chinese Argali E Gazella gazella acaciae Acacia Gazelle  $\mathbf{E}$ Ovis ammon karelini Israel: Jordan? Tien Shan Argali China; Kazakhstan Gazella gazella farasani R Farasan Gazelle E Ovis ammon nigrimontana Saudi Arabia: Farasan Islands Kara Tau Argali E Gazella gazella muscatensis Kazakhstan Muscat Gazelle Ι Ovis ammon polii Oman Marco Polo Argali, Pamir Argali Afghanistan; China; Pakistan; Tadjikistan E Gazella subgutturosa marica Arabian Sand Gazelle Ovis canadensis cremnobates Iran?; Jordan; Oman; Saudi Arabia; Syria?; Peninsular Bighorn Sheep United Arab Emirates: Yemen? Mexico: USA Hippotragus niger variani E Ovis canadensis mexicana Giant Sable Antelope Mexican Bighorn Sheep Angola Mexico; USA Kobus leche robertsi Ovis canadensis weemsi Ex Weems' Bighorn Sheep Roberts' Lechwe Zambia Mexico E Nemorhaedus bailevi bailevi Ovis nivicola borealis Tibetan Red Goral Putorean Snow Sheep, Norilsk Snow Sheep China Russia K Nemorhaedus baileyi cranbrooki K Ovis orientalis arkal Red Goral Transcaspian Urial India; Myanmar Iran; Turkmenistan; Uzbekistan Ovis orientalis blanfordi Nemorhaedus caudatus evansi  $\mathbf{v}$ Evans' Long-tailed Goral Blanford's Urial Thailand Pakistan Ovis orientalis bocharensis E Nemorhaedus goral bedfordi E Western Himalayan Goral Bukhara Urial Pakistan Tajikistan; Uzbekistan E Oreotragus oreotragus porteousi Ι Ovis orientalis cycloceros Western Klipspringer Afghan Urial Nigeria Afghanistan; Pakistan; Turkmenistan V Ourebia ourebi haggardi Ovis orientalis gmelini

Armenian Mouflon

Armenia; Azerbaijan; Iran; Turkey

Haggard's Oribi

Kenya; Somalia

- K Ovis orientalis isphahanica Esfahan Mouflon Iran
- K Ovis orientalis laristanica Laristan Mouflon Iran
- R Ovis orientalis musimon
  European Mouflon
  France: Corsica; Italy: Sardinia
- V Ovis orientalis ophion Cyprus Mouflon Cyprus
- K Ovis orientalis orientalis Red Sheep Iran
- V Ovis orientalis punjabiensis Punjab Urial Pakistan
- E Ovis orientalis severtzovi Severtzov's Urial Uzbekistan
- E Ovis orientalis vignei Ladahk Urial India; Pakistan
- E Redunca fulvorufula adamauae Western Mountain Reedbuck Cameroon; Nigeria
- V Redunca fulvorufula chanleri Chanler's Mountain Reedbuck Ethiopia; Kenya; Sudan; Tanzania; Uganda
- K Rupicapra rupicapra asiatica Turkish Chamois Turkey
- I Rupicapra rupicapra balcanica
   Balkan Chamois
   Albania; Bulgaria; Greece; Yugoslavia
- E Rupicapra rupicapra cartusiana Chartreuse Chamois France
- R Rupicapra rupicapra caucasica Caucasian Chamois Georgia; Russia
- V Rupicapra rupicapra tatrica Tatra Chamois Poland; Slovakia
- V Rupicapra pyrenaica ornata Apennine Chamois Italy: Abruzzo National Park

- E Saiga tatarica mongolica Mongolian Saiga Mongolia
- E Tragelaphus derbianus derbianus (T. oryx derbianus, also assigned to Taurotragus) Western Giant Eland Guinea?; Guinea-Bissau; Mali?; Senegal
- V Tragelaphus eurycerus isaaci Eastern Bongo Kenya

# Order RODENTIA

#### Family APLODONTIDAE

- I Aplodontia rufa nigra
  Point Arena Mountain Beaver
  USA: California
- I Aplodontia rufa phaea
  Point Reyes Mountain Beaver
  USA: California

# Family SCIURIDAE

- E Glaucomys sabrinus coloratus Carolina Flying Squirrel USA
- E Glaucomys sabrinus fuscus Virginia Flying Squirrel USA
- R Glaucomys volans goldmani Mexican Flying Squirrel Mexico
- R Glaucomys volans guerreroensis Guerrero Flying Squirrel Mexico
- R Glaucomys volans oaxacensis
  Oaxaca Flying Squirrel
  Mexico
- E Ratufa indica dealbata
  Dangs Giant Squirrel
  India
- E Ratufa indica elphinstoni
  Maharashtra Giant Squirrel
  India
- E Sciurus niger cinereus
  Delmarva Fox Squirrel
  USA
- E Tamias minimus atristriatus (Eutamias minimus atristriatus) New Mexico Least Chipmunk USA: New Mexico

E Tamias quadrivittatus australis (Eutamias quadrivittatus australis) Organ Mountains Chipmunk USA: New Mexico

E Tamiasciurus hudsonicus grahamensis Mount Graham Red Squirrel USA: Arizona

#### Family CASTORIDAE

- E Castor canadensis frondator
  Broad-tail Beaver
  Mexico
- E Castor canadensis mexicanus Rio Grande Beaver Mexico
- E Castor fiber birulai Mongolian Beaver Mongolia

#### Family GEOMYIDAE

R Thomomys umbrinus emotus Southern Pocket Gopher USA: New Mexico

#### Family HETEROMYIDAE

- E Dipodomys heermanni morroensis Morro Bay Kangaroo-rat USA
- K Dipodomys microps leucotis Houserock Chisel-toothed Kangaroo Rat USA: Arizona
- E Dipodomys nitratoides exilis Fresno Kangaroo Rat USA: California
- E Dipodomys nitratoides nitratoides
  Tipton Kangaroo Rat
  USA: California
- E Perognathus inornatus psammophilus
  (P. longimembris psammophilus)
  Salinas Pocket Mouse
  USA: California
- E Perognathus longimembris brevinasus
  Los Angeles Little Pocket Mouse
  USA: California

#### Family DIPODIDAE

E Zapus hudsonius luteus
(Z. princeps luteus)
Meadow Jumping Mouse
USA: New Mexico

I Zapus trinotatus orarius Point Reyes Jumping Mouse USA: California

#### Family MURIDAE

- E Microtus californicus scirpensis Amargosa Vole USA: California
- E Microtus mexicanus hualpaiensis
   Hualapai Vole
   USA: Arizona
- I Microtus mexicanus navaho USA: Arizona
- E Microtus pennsylvanicus chihuahuensis Chihuahua Vole Mexico
- E Microtus pennsylvanicus dukecampbelli Florida Saltmarsh Vole USA: Florida
- E Neotoma floridana smalli Key Largo Woodrat USA
- V Neotoma fuscipes riparia San Joaquin Valley Woodrat USA: California
- I Oryzomys palustris argentatus
  (O. argentatus)
  Silver Rice Rat
- E Peromyscus gossypinus allapaticola Key Largo Cotton Mouse USA
- E Peromyscus polionotus allophrys Choctawhatchee Beach Mouse USA
- E Peromyscus polionotus ammobates Alabama Beach Mouse USA
- I Peromyscus polionotus niveiventris South-eastern Beach Mouse USA
- E Peromyscus polionotus phasma Anastasia Island Beach Mouse USA
- E Peromyscus polionotus trissyllepsis
  Perdido Key Beach Mouse
  USA

- V Reithrodontomys megalotis limicola Southern Marsh Harvest Mouse USA: California
- E Sigmodon arizonae plenus (S. hispidus plenus) Colorado River Cotton Rat USA: Arizona?, California

#### Order LAGOMORPHA

# Family OCHOTONIDAE

- V Ochotona alpina argentata China
- V Ochotona alpina nitida Russia
- V Ochotona alpina ssp. Mongolia
- E Ochotona cansus sorrela China
- V Ochotona cansus morosa China
- E Ochotona pallasi hamica China; Mongolia
- I Ochotona pallasi sunidica China
- E Ochotona thibetana sikimaria India
- I Ochotona thibetana huangensis China

## Family LEPORIDAE

E Sylvilagus palustris hefneri Lower Keys Marsh Rabbit USA: Florida Keys

#### Order MACROSCELIDEA

# Family MACROSCELIDIDAE

- K Petrodromus tetradactylus sangi
   Four-toed Elephant-shrew
   Kenya
- K Rhynchocyon cirnei cirnei Chequered Elephant-shrew Mozambique
- R Rhynchocyon cirnei hendersoni Henderson's Chequered Elephant-shrew Malawi

# Class AVES

# Order TINAMIFORMES

# Family TINAMIDAE

E/Ex Crypturellus erythropus saltuarius (C. saltuarius) Magdalena Tinamou Colombia (ex?)

# Order PROCELLARIIFORMES

#### Family PROCELLARIIDAE

E/Ex Pterodroma hasitata caribbaea (P. caribbaea)
Jamaica Petrel
Jamaica (ex?)

K Puffinus auricularis newelli
 (Puffinus newelli)

 Newell's Shearwater
 USA: Hawaiian Islands (Hawaii, Kauai)

#### Order CICONIIFORMES

## Family THRESKIORNITHIDAE

I Bostrychia olivacea bocagei
(B. bocagei)
Dwarf Olive Ibis
São Tomé and Principe: São Tomé

# Order GRUIFORMES

#### Family RALLIDAE

R Gallinula nesiotis comeri (Gallinula comeri) Gough Moorhen Saint Helena: Gough Island

#### Order CHARADRIIFORMES

#### Family HAEMATOPODIDAE

E Haematopus unicolor chathamensis
(H. chathamensis)
Chatham Islands Oystercatcher
New Zealand: Chatham Islands

# Order PSITTACIFORMES

#### Family PSITTACIDAE

K Aratinga holochlora brevipes
(A. brevipes)
Socorro Parakeet
Mexico: Socorro Island

# Order STRIGIFORMES

# Family STRIGIDAE

K Otus magicus albiventris (O. alfredi) Flores Scops-Owl Indonesia: Flores

R Otus magicus insularis (O. insularis)

Seychelles Scops-Owl Seychelles: Mahe

Otus spilocephalus stresemanni K

> (O. stresemanni) Sumatran Scops-Owl Indonesia: Sumatra

#### Order APODIFORMES

# Family APODIDAE

K Apus barbatus sladeniae

> (Apus sladeniae) Fernando Po Swift

Angola; Cameroon; Equatorial Guinea: Bioko; Nigeria?

## Order CORACIIFORMES

# Family ALCEDINIDAE

Ex Todirhamphus cinnamominus miyakoensis

(Halcyon miyakoensis) Ryukyu Kingfisher Japan: Nansei-shoto

#### Order PASSERIFORMES

#### Family FURNARIIDAE

Asthenes dorbignyi huancavelicae Pale-tailed Canastero

Репи

E Cinclodes excelsior aricomae

> (Cinclodes aricomae) Royal Cinclodes Bolivia: Peru

#### Family COTINGIDAE

Laniisoma elegans elegans

(L. elegans) Shrike-like Cotinga Brazil

#### Family TYRANNIDAE

 $\mathbf{E}$ Onychorhynchus coronatus occidentalis Western Royal-Flycatcher Ecuador: Peru

# Family PYCNONOTIDAE

Hypsipetes borbonicus olivaceus (Hypsipetes olivaceus)

Mauritius Bulbul Mauritius

# Family MUSCICAPIDAE

Gerygone magnirostris hypoxantha

(G. hypoxantha) Biak Gerygone Indonesia: Biak

E Turdus olivaceus helleri

> (T. helleri) Teita Thrush Kenva

#### Family MELIPHAGIDAE

Manorina flavigula melanotis

(M. melanotis) Black-eared Miner Australia

#### Class REPTILIA

#### Order TESTUDINES

#### Family EMYDIDAE

Trachemys scripta callirostris

(Pseudemys scripta callirostris, Pseudemys ornata callirostris, Chrysemys ornata callirostris)

Colombian Slider Colombia: Venezuela

Trachemys stejnegeri malonei R

(Pseudemys malonei, Pseudemys malonei, Chrysemys malonei)

Inagua Island Turtle

Bahamas: Great Inagua Island

R Trachemys terrapen felis

(Pseudemys felis)

Cat Island Freshwater Turtle

[Bahamas: Cat Island]

# Family TESTUDINIDAE

Testudo graeca graeca

(includes Testudo whitei, T. flavominimaralis Furculachelys whitei, F. nabeulensis)

Spur-thighed Tortoise

Algeria; Egypt?; Libya; Morocco; Spain; Tunisia

[France; Italy]

V Testudo hermanni boettgeri (Testudo hermanni hermanni) Eastern Hermann's Tortoise Albania; Bulgaria; Greece; Italy; Romania; Turkey; Yugoslavia [Malta]

E Testudo hermanni hermanni
(Testudo hermanni robertmertensi)
Western Hermann's Tortoise
France; Italy; Spain: Balearic Islands,
[mainland]

#### Order SAURIA

# Family PYGOPODIDAE

V Aprasia rostrata rostrata Hermite Island Worm-lizard Australia

#### Family AGAMIDAE

V Tympanocryptis lineata pinguicolla South-eastern Lined Earless Dragon Australia

#### Family IGUANIDAE

K Phrynosoma coronatum blainvillei
 San Diego Horned Lizard
 Mexico: Baja California; USA: California

#### Family LACERTIDAE

R Podarcis filfolensis filfolensis (Lacerta filfolensis filfolensis) Filfola Lizard Malta: Filfola Island

## Family SCINCIDAE

V Egernia pulchra longicauda Jurien Bay Rock-skink Australia

E Eulamprus tympanum ssp.
Dreeite Water Skink
Australia

R Gongylomorphus bojerii fontenayi (Scelotes bojeri) Macabe Forest Skink Mauritius: Macabe Forest

#### Family ANIELLIDAE

I Anniella pulchra nigra
Black Legless Lizard
USA: California

#### Family VARANIDAE

V Varanus griseus caspius Central Asian Desert Monitor Central Asia

#### Order SERPENTES

#### Family BOIDAE

R Charina bottae umbratica Rubber Boa USA: California

R Epicrates monensis monensis (Epicrates gracilis monensis) Mona Island Boa Puerto Rico: Mona Island

R Epicrates striatus fosteri Bahamas Boa Bahamas

V Morelia spilota imbricata
Western Australian Carpet Python
Australia

# Family COLUBRIDAE

V Drymarchon corais couperi Eastern Indigo Snake USA

R Masticophis flagellum ruddocki San Joaquin Coachwhip USA: San Joaquin Valley, California

R Masticophis lateralis euryxanthus Almeda Striped Racer USA: California

V Natrix natrix cetti Sardinian Grass Snake Italy: Sardinia

R Nerodia fasciata taeniata Atlantic Saltmarsh Snake USA: Florida

V Nerodia harteri paucimaculata Concho Water Snake USA: Colorado and Concho River system

K Nerodia sipedon insularum Lake Erie Water Snake (Lake Erie) Canada; USA

E Thamnophis sirtalis tetrataenia San Francisco Garter Snake USA: California

# Family ELAPIDAE

V Notechis ater ater
Krefft's Tiger Snake
Australia

# Family VIPERIDAE

- V Crotalus willardi obscurus New Mexican Ridge-nosed Rattlesnake Mexico; USA
- R Vipera ammodytes transcaucasiana
  Transcaucasian Long-nosed Viper
  Armenia; Azerbaijan; Georgia; Russia; Turkey
- E Vipera ursinii rakosiensis Orsini's Viper Austria (ex?); Hungary; Romania

#### Class AMPHIBIA

# Order ANURA

# Family BUFONIDAE

I Bufo boreas nelsoni

 (alternatively treated as a full species Bufo nelsoni)

 Amargosa Toad

 USA: Nevada

#### Family HYLIDAE

I Pseudacris streckeri illinoensis Illinois Chorus Frog USA

#### Family PELOBATIDAE

V Pelobates fuscus insubricus
Italian Spadefoot Toad
Italy: plains of River Po; Switzerland: Ticino
(ex?)

# Order CAUDATA

#### Family AMBYSTOMATIDAE

- R Ambystoma dumerilii dumerilii
  Lake Patzcuaro Salamander or Achoque
  Mexico: Lake Patzcuaro
- E Ambystoma macrodactylum croceum Santa Cruz Long-toed Salamander USA: California
- V Ambystoma tigrinum californiense (Ambystoma californiense) Califomia Tiger Salamander USA: Califomia

# Class CEPHALASPIDOMORPHI

# Order PETROMYZONTIFORMES

# Family PETROMYZONTIDAE

R Lampetra tridentata ssp.
Pacific Lamprey
USA

# Class ACTINOPTERYGII

# Order ACIPENSERIFORMES

## Family ACIPENSERIDAE

V Acipenser oxyrhynchus ssp. Atlantic Sturgeon Canada; USA

#### Order CYPRINIFORMES

#### Family CYPRINIDAE

- V Dionda episcopa ssp. Roundnose Minnow Mexico
- V Gila bicolor ssp. Tui Chub USA
- V Gila robusta ssp. Roundtail Chub Mexico; USA
- V Lepidomeda mollispinis ssp. Virgin Spinedace USA
- E Pseudorasbora pumila ssp. Ushimotsugo Japan: Honshu Island
- E Rhodeus atremius suigensis Suigen Zenitanago Japan: Honshu Island
- E Rhodeus ocellatus smithi Nippon Baratanago Japan: Yao city, Osaka
- V Rhinichthys cataractae ssp. Longnose Dace Canada; USA
- V Rhinichthys osculus ssp. Speckled Dace Canada; Mexico; USA

# Family CATOSTOMIDAE

R Catostomus catostomus lacustris Jasper Longnose Sucker Canada

- E Catostomus clarki intermedius White River Sucker USA
- R Catostomus dicobolus yarrowi Zuni Bluehead Sucker USA
- R Catostomus occidentalis lacusanserinus Goose Lake Sucker USA
- Ex Chasmistes liorus liorus June Sucker USA
- E Chasmistes liorus mictus June Sucker USA
- R Catostomus rimiculus ssp.
  Jenny Creek Sucker
  USA

# Order CHARACIFORMES

#### Family CHARACIDAE

R Astyanax mexicanus jordani Sardina Ciega Mexico

# Order SALMONIFORMES

#### Family PLECOGLOSSIDAE

E Plecoglossus altivelis ryukyuensis Ryukyu Ayu-fish Japan: Ryukyu Islands

# Family SALMONIDAE

- V Onchorhynchus clarki ssp. Cutthroat Trout USA
- V Stenodus leucichthys leucichthys Beloribitsa Azerbaijan?; Khazakstan; Russia

# Order CYPRINODONTIFORMES

#### Family GOODEIDAE

- Ex Empetrichthys latos concavus Raycraft Ranch Poolfish USA
- E Empetrichthys latos latos Pahrump Poolfish USA
- Ex Empetrichthys latos pahrump Pahrump Ranch Poolfish USA

# Family CYPRINODONTIDAE

- R Cyprinodon salinus milleri Cottonball Marsh Pupfish USA
- R Cyprinodon salinus salinus Salt Creek Pupfish USA
- V Cyprinodon eximius ssp. Conchos Pupfish Mexico; USA
- E Cyprinodon macularius ssp.
  Desert Pupfish
  Mexico; USA
- V Cyprinodon nevadensis ssp. Amargosa Pupfish USA

#### Order GASTEROSTEIFORMES

# Family GASTEROSTEIDAE

- E Gasterosteus aculeatus santaeannae Santa Ana Stickleback USA
- E Gasterosteus aculeatus williamsoni
  Unarmored Threespine Stickleback
  USA

#### Order PERCIFORMES

#### Family CENTRARCHIDAE

- R Lepomis megalotis ssp.

  Mojarra de Cuatro Cienegas

  Mexico
- R Micropterus salmoides ssp. Robalo de Cuatro Cienegas Mexico

#### Family CICHLIDAE

- E Cichlasoma urophtalmus ericymba Mojarra de Bulha Mexico
- R *Oreochromis alcalicus grahami* Lake Magadi Tilapia Kenya

# Family EMBIOTOCIDAE

R Hysterocarpus traski pomo Russian River Tule Perch USA

# Phylum Mollusca

# Class GASTROPODA

# Order ARCHAEOGASTROPODA

#### Family HELICINIDAE

- V Pleuropoma zigzac ponapense
   Federated States of Micronesia: Pohnpei
- V Pleuropoma zigzac zigzac Federated States of Micronesia: Kosrae

#### Order MESOGASTROPODA

#### Family DIPLOMMATINIDAE

V Palaina strigata kororensis Palau: Koror

# Order STYLOMMATOPHORA

#### Family CLAUSILIDAE

R Macrogastra lineolata euzieriana France

#### Family DISCIDAE

- V Oreohelix idahoensis idahoensis Idaho Banded Mountain Snail USA
- R Oreohelix strigosa goniogyra
  Carinated Striate Banded Mountain Snail
  USA

#### Family POLYGYRIDAE

- V Mesodon clarki nantahala Noonday Snail
- I Mesodon clausus trossulus Banded Mesodon USA
- I Stenotrema leai cheatumi USA

### Family CAMAENIDAE

R Glyptorhagada wilkawillina umbilicata Australia: South Australia

#### Family HELMINTHOGLYPTIDAE

- I Eremarionta indioensis cathedralis Cathedral Desert Snail USA
- K Eremarionta rowelli bakerensis Baker Desert Snail USA

- K Eremarionta rowelli mccoiana McCoy Desert Snail USA
- K Helminthoglypta arrosa pomoensis USA
- I Helminthoglypta expansilabris mattolensis
  Cape Shoulderband
  USA
- K Helminthoglypta nickliniana awania
   Nicklin's Peninsula Snail
   USA
- I Helminthoglypta nickliniana bridgesi USA
- I Helminthoglypta nickliniana contracosta USA
- E Helminthoglypta sequoicola consors USA
- K Helminthoglypta stiversiana miwoka
   Dented Peninsula Snail
   USA
- R Helminthoglypta stiversiana williamsi USA
- K Monadenia fidelis minor USA
- V Monadenia fidelis pronotis Rocky Coast Sideband USA
- K Monadenia yosemitensis yosemitensis
   Indian Yosemite Snail
   USA
- K Monadenia mormonum buttoni USA
- V Monadenia mormonum hirsuta USA

# Class BIVALVIA

# Order UNIONOIDA

# Family MARGARITIFERIDAE

I Margaritifera margaritifera durrovensis Ireland

#### Family UNIONIDAE

E Dysnomia florentina curtisi
(Epioblasma florentina)
Curtis Pearlymussel
USA

- E Dysnomia florentina florentina (Epioblasma florentina florentina) Yellow-blossom USA
- E Dysnomia florentina walkeri (Epioblasma florentina walkeri) Tan Riffleshell USA
- E Dysnomia obliquata obliquata
  (Epioblasma obliquata obliquata)
  Catspaw
  USA
- E Dysnomia obliquata perobliqua (Epioblasma obliquata perobliqua) White Catspaw USA
- E Dysnomia torulosa gubernaculum (Epioblasma torulosa gubernaculum) Green-blossom USA
- E Dysnomia torulosa rangiana (Epioblasma torulosa rangiana) Northern Riffleshell Canada; USA
- E Dysnomia torulosa torulosa (Epioblasma torulosa torulosa) Tubercled-blossom Canada; USA

# Phylum ARTHROPODA

#### Class INSECTA

#### Order ODONATA

# Family CALOPTERYGIDAE

R Matrona basilaris japonica Japan: Amami-oshima, Okinawa, Tokunoshima

# Family COENAGRIONIDAE

- E Coenagrion hylas freyi
  Frey's Damselfly
  Austria; Germany; Switzerland
- I Megalagrion amaurodytum fallax Fallax Damselfly USA: Hawaiian Islands
- I Megalagrion amaurodytum peles
  Pele Damselfly
  USA: Hawaiian Islands
- I Megalagrion amaurodytum waianaeanum Waianae Damselfly USA: Hawaiian Islands

E Seychellibasis alluaudi alluaudi Seychelles

# Family EUPHAEIDAE

R Bayadera brevicauda ishigakiana Japan: Iriomote, Ishigaki

#### Family PLATYCNEMIDAE

- R Coeliccia flavicauda masakii Japan: Yayeyama
- R Coeliccia ryakyuensis amamii Japan: Amami
- R Coeliccia ryakyuensis ryukyuensis Japan: Okinawa

### Family AESHNIDAE

- R Planaeschna ishigakiana ishigakiana Japan: Yayeyama
- R Planaeschna ishigakiana nagaminei Japan: Amami
- R Planaeschna risi sakishimana Japan: Yayeyama

#### Family GOMPHIDAE

- R Asiagomphus amamiensis amamiensis Japan: Amami-oshima
- R Asiagomphus amamiensis okinawanus Japan: Okinawa
- I Ophiogomphus incurvatus alleghaniensis Alleghany Snaketail Dragonfly USA
- R Stylogomphus ryukyuensis asatoi Japan: Kerama, Okinawa
- R Stylogomphus ryukyuensis watanabei Japan: Iriomote

### Family CORDULEGASTERIDAE

- R Chlorogomphus brevistigmata okinawanus Japan: Okinawa
- R Chlorogomphus brunneus brunneus Japan: Okinawa
- R Chlorogomphus brunneus keramensis Japan: Kerama

#### Family CORDULIDAE

R Hemicordulia mindana nipponica Japan: Nakanoshima, Tanegashima, Yayeyama

#### Family LIBELLULIDAE

K Eleuthemis beuttikoferi quadrigutta Mozambique; Zimbabwe

- R Leucorrhinia intermedia ijimai Japan: Hokkaido
- R Orthetrum poecilops miyajimaense Japan

#### Order COLEOPTERA

#### Family CARABIDAE

I Sphaeroderus schaumi shenandoah Schaum's Blue Ridge Ground Beetle USA

## Family CICINDELIDAE

- I Cicindela chlorocephala smythi Smyth's Tiger Beetle USA
- I Cicindela dorsalis dorsalis
  North-eastern Beach Tiger Beetle
  USA
- I Cicindela latesignata obliviosa
  Oblivious Tiger Beetle
  USA
- I Cicindela limbata albissima
  Coral Pink Dunes Tiger Beetle
  USA
- I Cicindela nevadica olmosa Los Olmos Tiger Beetle USA
- I Cicindela nigrocoerula subtropica
  Subtropical Blue-Black Tiger Beetle
- I Cicindela obsoleta neojuvenalis Neojuvenile Tiger Beetle
- I Cicindela tranquebarica viridissima Greenest Tiger Beetle USA

#### Family DYTISCIDAE

Ex Dytiscus lapponicus disjunctus Italy: Alpes Maritime

#### Family SCARABAEIDAE

- K Dynastes hercules glaseri Trinidad and Tobago
- V Dynastes hercules hercules
  Hercules Beetle
  Dominica; Guadeloupe
- V Dynastes hercules reidi Hercules Beetle Martinique; Saint Lucia

#### Family ELMINTHIDAE

- I Huleechius marroni carolus Marron's San Carlos Riffle Beetle USA
- I Stenelmis calida calida
  Devil's Hole Warm Spring Riffle Beetle
  USA
- I Stenelmis calida moapa Moapa Warm Springs Riffle Beetle USA

#### Family LAMPYRIDAE

I Photuris brunnipennis floridana Everglades Browing Firefly USA

# Family CERAMBYCIDAE

- E Crossidius mojavensis mojavensis
  Mojave Rabbitbrush Longhorn Beetle
  USA
- V Desmocerus californicus dimorphus Valley Elderberry Longhorn Beetle USA

# Family CURCULIONIDAE

I Trigonoscuta dorothea dorothea

Dorothy's El Segundo Dune Weevil

USA

# Order LEPIDOPTERA

### Family HESPERIIDAE

- I Antipodia chaostola leucophaea Australia: Tasmania
- E Hesperia leonard montana (Hesperia pawnee montana) Pawnee Montane Skipper USA
- I Hesperilla mastersi marakupa Australia: Tasmania
- V Kedestes barerae bunta Barber's Ranger South Africa
- I Oreisplanus munionga larana Australia: Tasmania
- V Panoquina panoquinoides errans Salt Marsh Skipper Mexico; USA
- I Pseudocopaeodes eunus eunus Wandering Skipper USA

### Family PAPILIONIDAE

- E Eurytides lysithous harrisianus Harris' Mimic Swallowtail Brazil
- R Graphium alebion chungianus Taiwan
- V Graphium antiphates ceylonicus Sri Lankan Five-bar Swordtail Sri Lanka
- E Papilio aristodemus ponceanus Schaus' Swallowtail USA
- E Papilio desmondi teita
  Taita Blue-banded Papilio
  Kenya
- Ex Papilio phorbanta nana Seychelles
- E Parnassius apollo vinningensis Germany
- I Parnassius clodius shepardii Shepard's Clodius Parnassian USA
- Ex Parnassius clodius strohbeeni Strohbeen's Clodius Parnassian USA
- E Troides aeacus kaguya Taiwan

### Family PIERIDAE

- I Euchloe hyantis andrewsi
  Andrew's Marble Butterfly
  USA
- R Pieris krueperi devta India

# Family LYCAENIDAE

- R Aloeides dentatis dentatis
  South Africa
- I Aloeides dentatis maseruna Lesotho; South Africa
- R Aloeides trimeni southeyae South Africa
- R Argyrocupha malagrida cedrusmontana Lion's Head Copper South Africa
- V Argyrocupha malagrida malagrida Lion's Head Copper South Africa

- V Argyrocupha malagrida maryae Lion's Head Copper South Africa
- R Argyrocupha malagrida paarlensis Lion's Head Copper South Africa
- R Bowkeria phosphor borealis South Africa
- R Bowkeria phosphor phosphor South Africa
- E Callophrys mossii bayensis San Bruno Elfin USA
- R Durbania amakosa albescens South Africa
- I Durbania amakosa flavida South Africa
- I Euphilotes battoides comstocki (Shijimiaeoides battoides comstocki) Comstock's Blue USA
- E Euphilotes bernardino allyni (Shijimiaeoides battoides allyni) El Segundo Blue USA
- E Euphilotes enoptes smithi
  (Shijimiaeoides enoptes smithi)
  Smith's Blue
  USA
- I Euphilotes rita mattonii (Shijimiaeoides rita mattonii) Mattoni's Blue USA
- Ex Everes comyntas texanus Texas Tailed Blue USA
- R Iolaus diametra natalica (Epamera diametra natalica) South Africa
- Ex? Glaucopsyche lygdamus palosverdesensis Palos Verdes Blue USA
- I Hemiargus thomasi bethune-bakeri Miami Blue Butterfly USA
- E Icaricia icarioides missionensis Mission Blue USA

I	Icaricia icarioides moroensis Moro Bay Blue USA
I	Icaricia icarioides pheres Pheres Blue USA
R	Lepidochrysops jamesi classensi South Africa
R	Lepidochrysops jamesi jamesi South Africa
E	Lepidochrysops methymna dicksoni South Africa
R	Lepidochrysops oreas oreas South Africa
Ex?	Lycaeides argyrognomon lotis Lotis Blue USA
I	Lycaeides melissa samuelis Karner Blue USA
I	Lycaena dorcas claytoni Clayton's Copper USA
E	Maculinea teleius burdigalensis Scarce Large Blue France
R	Mitoura gryneus sweadneri Sweadner's Hairstreak USA
R	Ornipholidotos peucetia penningtoni White Mimic Mozambique; South Africa
E	Panchala ganesa loomisi Tailless Blue Japan
I	Philotiella speciosa bohartorum Bohart's Blue USA
E	Plebejus icarioides missionensis Mission Blue USA
R	Phasis thero cedarbergae South Africa
R	Poecilmitis brooksi tearei South Africa
I	Poecilmitis nigricans nigricans

Blue Jewel Copper South Africa

I	Poecilmitis nigricans zwartbergae Blue Jewel Copper South Africa
R	Poecilmitis pyroeis hersaleki South Africa
I	Pseudalmenus chlorinda chlorinda Australia: Tasmania
I	Pseudalmenus chlorinda conara Australia: Tasmania
I	Shijimiaeoides langstoni langstoni Langston's Blue USA
R	Strymon acis bartrami Bartram's Hairstreak USA
R	Thestor dicksoni calviniae Dickson's Thestor South Africa
R	Thestor dicksoni dicksoni Dickson's Thestor South Africa
I	Thestor montanus pictus South Africa
R	Tuxentius melaena griqua South Africa
Fam	ily RIODINIDAE
Ε	Apodemia mormo langei Lange's Metalmark USA
Fam	ily SATYRIDAE
Ex	Cercyonis sthenele sthenele Sthenele Wood Nymph USA
R	Erebia annada annada Bhutan; India
R	Erebia narasingha narasingha

R

R

R

R

Lethe dura gammiei Bhutan; India

Lethe europa tamuna India: Nicobar Island

Lethe gemina gafuri

Lethe ocellata lyncus

Bhutan; India

India

- E Neonympha mitchelli mitchelli Mitchell's Satyr Butterfly USA
- R Pararge menava maeroides
  India
- R Ypthima dohertyi persimilis India; Myanmar

#### Family NYMPHALIDAE

- E Antanartia borbonica mauritiana Mauritius
- V Charaxes druceanus entabeni Silver Barred Charaxes South Africa
- I Charaxes druceanus williamsi Kenya
- I Charaxes durnfordi nicholi Chestnut Rajah India; Myanmar
- V Charaxes karkloof capensis South Africa
- V Charaxes xiphares desmondi Kenya
- V Charaxes xiphares xiphares
  Western Forest Emperor
  South Africa
- V Cymothoe alcimeda alcimeda Battling Glider South Africa
- R Doleschallia bisaltide andamana Andaman Leafwing India: Andaman Islands
- E Euphydryas editha bayensis
  Bay Checkerspot Butterfly
  USA
- I Euphydryas editha monoensis Mono Checkerspot Butterfly USA
- V Heliconius charitonius peruvianus Ecuador, Peru
- I Heteronympha cordacea comptena Australia: Tasmania
- I Hypolimnas dubius drucei
  Comoro Islands; Madagascar, Mauritius
- R Neptis sankara nar India: Andaman Islands

- I Salamis angustina angustina Salamis Retrecie Madagascar, Réunion
- Ex Salamis angustina vinsoni Mauritius
- I Satyrodes eurydice fumosa Smokey Eyed Brown Butterfly USA
- Ex Speyeria adiaste atossa Atossa USA
- I Speyeria callippe callippe Callippe Silverspot USA
- I Speyeria hydaspe conquista Silverspot USA
- I Speyeria nokomis caerulescens Blue Silverspot Mexico; USA
- I Speyeria nokomis nokomis Great Basin Silverspot USA
- I Speyeria zerene behrensii Behren's Silverspot USA
- V Speyeria zerene hippolyta Oregon Silverspot USA
- R Speyeria zerene myrtleae Myrtle's Fritillary USA

#### Family SPHINGIDAE

E Celerio wilsoni perkinsi USA: Hawaiian Islands

#### Order HYMENOPTERA

#### Family SPHECIDAE

I Ectemnius nesocrabo bidecoratus Bidecoratus Sphecid Wasp USA: Hawaiian Islands

# Family ANDRENIDAE

- I Perdita hirticeps luteocincta Yellow Banded Andrenid Bee USA
- I Perdita scitula antiochensis Antioch Andrenid Bee USA

# List 5

# COMMERCIALLY THREATENED SPECIES



Class MAMMALIA

Order PRIMATES

Family CERCOPITHECIDAE

CT Macaca nemestrina

Pigtail Macaque

Bangladesh; Brunei; Cambodia?; China; India; Indonesia; Laos; Malaysia; Myanmar;

Thailand; Viet Nam

# Phylum CNIDARIA

Class ANTHOZOA

Order GORGONACEA

Family CORALLIDAE

CT Corallium (20 species)

Precious Corals

Mediterranean Sea, Pacific Ocean

Order ANTIPATHARIA

Family ANTHIPATHIDAE

CT Anthipathidae (c 150 species)

Black Coral

Caribbean, Indo-Pacific

# Phylum MOLLUSCA

Class GASTROPODA

Order ARCHAEOGASTROPODA

Family TURBINIDAE

CT Turbo marmoratus

Green Snail

Indo-Pacific

Family STROMBIDAE

CT Strombus gigas

Queen Conch

Caribbean

Class BIVALVIA

Order PTERIOIDA

Family PTERIIDAE

CT Pinctada margaritifera

Black-lipped Pearl Oyster

Indo-Pacific

CT Pinctada maxima
Gold-lipped Pearl Oyster
Indo-Pacific

# Phylum ARTHROPODA

Class CRUSTACEA

Order DECAPODA

Family NEPHROPIDAE

CT Homarus americanus American Lobster

North Atlantic

CT Homarus gammarus

European Lobster North-east Atlantic

Γ Nephrops norvegicus

Norway Lobster

North-east Atlantic

Family PALINURIDAE

CT Jasus edwardsii Rock Lobster

New Zealand

CT Panulirus argus

Caribbean Spiny Lobster

Caribbean

CT Panulirus guttatus

Spotted Spiny Lobster

Caribbean

CT Panulirus penicillatus

Pronghorn Spiny Lobster

Indo-Pacific

# Phylum ECHINODERMATA

Class ECHINOIDEA

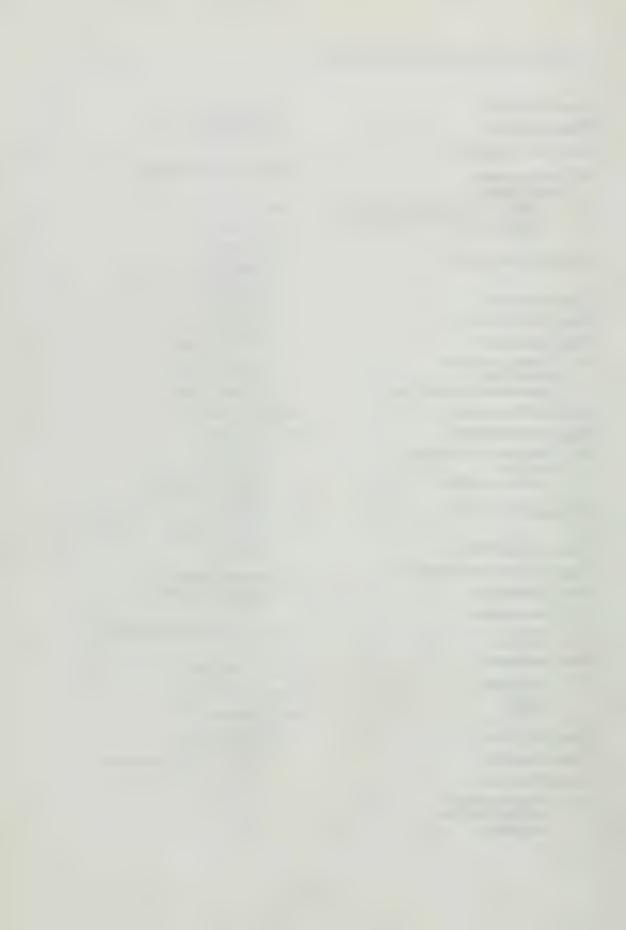
Order ECHINOIDA

Family ECHINIDAE

CT Paracentrotus lividus

Purple Urchin

North-east Atlantic, Mediterranean



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## **IUCN Species Survival Commission**

The Species Survival Commission (SSC) is one of six volunteer commissions of IUCN – The World Conservation Union, a union of sovereign states, government agencies and non-governmental organizations. IUCN has three basic conservation objectives: to secure the conservation of nature, and especially of biological diversity, as an essential foundation of the future; to ensure that where the earth's natural resources are used this is done in a wise, equitable and sustainable way; and to guide the development of human communities towards ways of life that are both of good quality and in enduring harmony with other components of the biosphere.

The SSC's mission is to conserve biological diversity by developing and executing programmes to save, restore and wisely manage species and their habitats. A volunteer network comprised of 4,800 scientists, field researchers, government officials and conservation leaders from 169 countries, the SSC membership is an unmatched source of information about biological diversity and its conservation. As such, SSC members provide technical and scientific counsel for conservation projects throughout the world and serve as resources to governments, international conventions and conservation organizations.

The SSC has long been associated with the Red Data Book concept, which was originated by the former SSC Chair, Sir Feter Scott, in the mid-1960s. The Red Date Books are catalogues of information on species threatened with extinction, and they aim to focus attention of the plight of the earth's vanishing wildlife. The concept has been outstandingly successful and, over two decades later, many national, regional and global Red Data Books have been published, while many more countries are in the process of compiling their own lists of threatened species. The information provided in national and regional compilations is inevitably more detailed than the global overview produced by SSC. The demand for a simple international list that categorises the status of globally threatened taxa is growing, partly as a result of the increasing number of relevant international conventions, and it was to meet this need that the first IUCN Red List of Threatened Animals was published in 1986. Further editions appeared in 1988 and 1990, and this edition is a further update of the 1990 version. The SSC is currently in the process of revising and improving the IUCN Red List categories for threatened species, and it is hoped that the next version, to be published in 1996, will be based on the new categories.

Produced from the advice of SSC members and the databases of the World Conservation Monitoring Centre, the Red List presents, for each species, the scientific name, the English vernacular name (where possible), the IUCN Red List category, and countries of its regular occurrence. In addition, there is an introductory guest essay by Georgina Mace on the process to develop the new IUCN Red List categories, and also a foreword by the current SSC Chair, George Rabb. This edition of the Red List has been edited by Brian Groombridge of the World Conservation Monitoring Centre.

Whilst the length of the Red List makes depressing reading, the information it presents should be of fundamental value to scientists, manager and decision-makers responsible for conservation programmes.

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